

EPA REGISTRATION NUMBER 524-445 – Vol. 3

SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide, the label for tank mix products and this supplement.



EPA Reg. No. 524-445

ROUNDUP HERBICIDE AND TANK MIXTURES FOR NONCROP AREAS, INCLUDING RAILROAD RIGHTS-OF-WAY, UTILITY SUBSTATIONS, AIRPORTS, INDUSTRIAL PLANTS, ROADSIDES, STORAGE AREAS AND SIMILAR SITES.

Keep out of reach of children. WARNING! AVISO!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

*Roundup is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

See the "GENERAL INFORMATION", "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" and "NONCROP USES" sections of the label booklet for Roundup for essential product information.

Do not allow spray mixtures of this herbicide to mist, drip, drift or splash onto desirable vegetation since injury or destruction may occur. Do not apply when wind or other conditions favor drift.

See the "WEEDS CONTROLLED" section of the Roundup label booklet for rate recommendations. For difficult to control species, where dense stands occur, or where conditions for control are not ideal, 5 to 10 quarts per acre of this product may be used for improved results.

TANK MIXTURES

This product provides control of the emerged weeds listed in the label booklet. When applied as a tank mixture, the following herbicides will provide preemergence and/or postemergence control of the weeds listed in the individual product labels.

The following list of products may be tank mixed with this product. Any recommended rate of this product may be used in a tank mixture with these products.

Tank Mix Product

Rate per acre

Arsenal™ *	0.5 to 4 pints
Banvel	1 to 4 pints
2,4-D	0.5 to 1 pound
Garlon™ 3A	1 to 6 pints
Garlon 4	1 to 6 pints
Diuron	4 to 8 pounds
Diuron + 2,4-D	4 to 8 pounds + 0.5 to 1 pound
Diuron + Garlon 3A	4 to 10 pounds + 1 to 2 pints
Diuron + Garlon 4	4 to 10 pounds + 1 to 2 pints
Hyvar™ X	4 to 8 pounds
Hyvar X + 2,4-D	4 to 8 pounds + 0.5 to 1 pound
Hyvar X + Garlon 3A	4 to 8 pounds + 1 to 2 pints
Hyvar X + Garlon 4	4 to 8 pounds + 1 to 2 pints
Krovar™ I DF	4 to 6 pounds
Krovar I DF + 2,4-D	4 to 6 pounds + 0.5 to 1 pound
Krovar I DF + Garlon 3A	4 to 6 pounds + 1 to 2 pints
Krovar I DF + Garlon 4	4 to 6 pounds + 1 to 2 pints
Oust™	2 to 6 ounces
Oust + 2,4-D	2 to 6 ounces + 0.5 to 1 pound
Oust + Garlon 3A	2 to 6 ounces + 1 to 2 pints
Oust + Garlon 4	2 to 6 ounces + 1 to 2 pints
Spike™ 80W	2 to 5 pounds
Spike 80W + 2,4-D	2 to 5 pounds + 0.5 to 1 pound
Spike 80W + Garlon 3A	2 to 5 pounds + 1 to 2 pints
Spike 80W + Garlon 4	2 to 5 pounds + 1 to 2 pints

*Arsenal is not approved for use in the state of California.

Refer to the individual product labels for specific noncrop sites, rates, carrier volumes and precautionary statements.

Read and carefully observe the label claims, cautionary statements, recommended use rates and all other information on the labels of all products used in these tank mixtures. Use according to the most restrictive label directions for each product in the mixture.

Maintain good agitation at all times during the mixing process. Ensure that the tank mix products are well mixed with the spray solution before adding this product.

Mix only the quantity of spray solution which can be used during the same day. Tank mixtures allowed to stand overnight may result in reduced weed control.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Nonionic surfactants which are labeled for use with herbicides may be used. Use a 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution). Use surfactants that contain at least 50 percent active

ingredient. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

When used in combination as recommended by Monsanto Company, the liability of Monsanto shall in no manner extend to any damage, loss or injury not solely and directly caused by the inclusion of the Monsanto product in such combination use.

Read "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.

™ Arsenal is a trademark of American Cyanamid Company.

™ Banvel is a trademark of Sandoz Crop Protection Corporation.

™ Garlon and Spike are trademarks of DowElanco Products Company.

™ Hyvar, Krovar, and Oust are trademarks of E. I. duPont de Nemours and Company.

MAP-3574-1/6/94
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MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167

In Accordance with FR Notice 82-2.

Based on Draft Labeling Dated 12/1/93

Monsanto

Monsanto Company
Suite 1100
700 14th Street, N.W.
Washington, D.C. 20005

March 21, 1994

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor
Product Manager (25)


Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**
Submit Final Printed Supplemental Label

Dear Sir:

The supplemental label for Roundup Herbicide to allow tank mixing Roundup with various products and/or combinations thereof for noncrop areas, including railroad rights-of-way, utility substations and similar sites was approved on December 9, 1993. Attached are five (5) copies of the final printed label.

If you have any questions regarding this submission, please contact Dr. Russell Schneider at our Washington office or me at 314-694-2124.

Sincerely,


Lydia A. Suba
Registration Manager

cc: R.P. Schneider
D.M. Fee-White
D.A. Humphrey

(A)		United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number <div style="font-size: 1.5em; color: red;">207781</div>
		Application for Pesticide:		

Section I

1. Company/Product Number <div style="text-align: right; margin-right: 20px;">524-445</div>	2. EPA Product Manager <div style="text-align: right; margin-right: 20px;">Robert J. Taylor</div>	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) <div style="text-align: right; margin-right: 20px;">Roundup® Herbicide</div>	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) <div style="text-align: right; margin-right: 20px;"> Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005 </div> <div style="margin-top: 10px;"> <input type="checkbox"/> Check if this is a new address </div>		
6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____		

Section II

<input type="checkbox"/> Amendment - Explain below <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input type="checkbox"/> Notification - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application. <input type="checkbox"/> Other - explain below.
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Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submit final printed label - Supplemental to tank mixtures for noncrop areas, including railroad rights-of-way, utility substations, airports, industrial plants, roadsides, storage areas and similar sites.

Section III

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No If "Yes," Unit Package wgt. No. per container	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Package wgt. No. per container	2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted.			
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container	4. Size(s) of Retail Container <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product
6. Manner In Which Label Is Affixed To Product <input type="checkbox"/> Other (_____)			

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name <div style="text-align: right; margin-right: 20px;">Dr. Russell P. Schneider</div>	Title <div style="text-align: right; margin-right: 20px;">Agricultural Regulation Director</div>	Telephone No. (Include Area Code) <div style="text-align: right; margin-right: 20px;">(202) 783-2460</div>
Certification		
I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment both under applicable law.		
2. Signature <div style="text-align: right; margin-right: 20px;"> </div>	3. Title <div style="text-align: right; margin-right: 20px;">Registration Manager</div>	6. Date Application Received (Stamped) <div style="font-size: 1.5em;">4</div>
4. Typed Name <div style="text-align: right; margin-right: 20px;">Lydia A. Suba</div>	5. Date <div style="text-align: right; margin-right: 20px;">March 21, 1994</div>	

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)1];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in Which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup and this supplement.

Roundup
Herbicide by **Monsanto**

NOT REVIEWED

In Accordance with PR Notice 82-2.
Based on Draft Labeling Dated

5/26/93

EPA Reg. No. 524-445

ROUNDUP HERBICIDE FOR USE IN DORMANT RANGELAND

Keep out of reach of children.

WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

*Roundup is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup herbicide for essential product performance information.

RECOMMENDATIONS

This product will control or suppress many weeds, including downy brome, cheat grass, cereal rye, medusahead rye and jointed goatgrass in dormant rangeland.

Apply 8 to 16 ounces per acre of this product in the early spring when the weeds have greened up, but desirable grasses, such as crested and tall wheatgrass are still truly dormant.

Slight discoloration of the desirable grasses may occur, but they will regreen and regrow under moist soil conditions as effects of this product wear off.

Do not use additional surfactant or ammonium sulfate when spraying dormant rangeland grasses with Roundup.

Do not make more than one application per year.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

MAP-3529-6/22/93

©Monsanto Company 1993

MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167

Monsanto

Monsanto Company
Suite 1100
700 14th Street, N.W.
Washington, D.C. 20005

March 7, 1994

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor
Product Manager (25)

Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**
Submission of Final Printed Labels:
Supplemental Label for Use in Dormant Rangeland

Dear Sir:

Monsanto is submitting final printed labels of a Roundup® herbicide supplemental label for your files. This supplemental label, which allows the use of Roundup in dormant rangeland, was approved by the Agency on May 26, 1993.

Enclosed are five (5) copies of the label (version MAP-3529-6/22/93).


If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.
Manager, Regulatory Affairs
(314) 694-7248

cc: R.P. Schneider

(A) 	United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number 207797
	Application for Pesticide:		

Section I

1. Company/Product Number 524-445	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

Section II

<input type="checkbox"/> Amendment - Explain below	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed labels: Supplemental label for use in dormant rangeland.

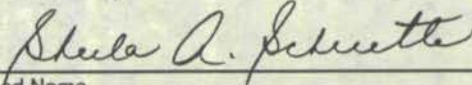
Section III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal	<input checked="" type="checkbox"/> Plastic
				<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
				<input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted.		If "Yes," Unit Package wgt.	No. per container	If "Yes," Package wgt.	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) of Retail Container various		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product	
6. Manner In Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input checked="" type="checkbox"/> Other (vinyl glued)			

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date March 7, 1994	

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

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2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

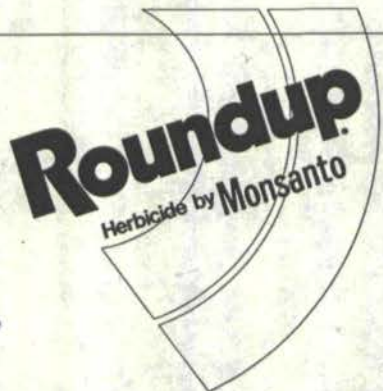
SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE AND THE "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" SUPPLEMENTAL LABEL BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide, the "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" supplemental label, and this supplement.

NOT REVIEWED
In Accordance with PR Notice 82-2,
Based on Draft Labeling Dated

12/9/93



(EPA Reg. No. 524-445)

FOR AERIAL APPLICATION IN FRESNO COUNTY, CA ONLY **FROM FEBRUARY 15 THROUGH MARCH 31 ONLY.**

FOR AERIAL APPLICATION OUTSIDE THESE DATES, REFER TO THE "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" STATEWIDE SUPPLEMENTAL LABEL.

Keep out of reach of children.

WARNING! AVISO!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

Roundup® is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of the herbicide application.

See the "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for essential product information.

See the "CROPPING SYSTEMS" section of the label booklet for specific recommendations on the use of this product.

Applicable Area

This supplement only applies to the area contained inside the following boundaries within Fresno County, California only.

North: Fresno County line
South: Fresno County line
East: State Highway 99
West: Fresno County line

GENERAL INFORMATION

Always read and follow the label directions and precautionary statements for all products used in the aerial application.

Observe the following directions to minimize off-site movement during aerial application of Roundup herbicide. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor, and aerial applicator.

Written Recommendations

A written recommendation MUST be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24 hours prior to the application. This written recommendation MUST state the proximity of surrounding crops, and that conditions of each manufacturer's applicable product label(s) and this label have been satisfied.

Aerial Applicator Training and Equipment

Aerial application of Roundup herbicide is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight, and certified at a Fresno County Agricultural Commissioner approved fly-in. Test and calibrate spray equipment at intervals sufficient to insure that proper rates of herbicides and adjuvants are being applied during commercial use. Applicator must document such calibrations and testing. Demonstration of performance at Fresno County Agricultural Commissioner approved "fly-ins" constitutes such documentation, or other written records showing calculations

and measurements of flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

Application at night - Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

To report known or suspected misuse of Roundup herbicide, call 1-800-ROUNDUP.

For additional information on the proper aerial application of Roundup herbicide, call (916) 784-1718.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label for Roundup herbicide before using this product. Those terms apply to this supplemental labeling and if those terms are not acceptable, return the product unopened at once.

MAP-3579-1/26/94

© MONSANTO COMPANY 1994

MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167

Monsanto

Monsanto Company
Suite 1100
700 14th Street, N.W.
Washington, D.C. 20005

January 28, 1994

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor
Product Manager (25)

Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**
Submission of Final Printed Labels:
Supplemental Label for Aerial Application in Fresno County, CA

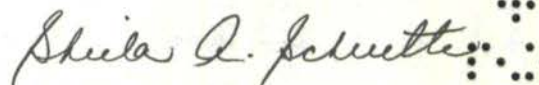
Dear Sir:

Monsanto is submitting final printed labels of a Roundup® herbicide supplemental label for your files. This supplemental label, which provides instructions for aerial applications in Fresno County, CA, was approved by the Agency on December 9, 1993.

Enclosed are five (5) copies of the label (version MAP-3579-1/26/94).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.
Registration Manager
(314) 694-7248

cc: R.P. Schneider

(A)



United States Environmental Protection Agency
Office of Pesticide Programs (H7505C)
Washington, DC 20460

Application for Pesticide:

☐ Registration
☐ Amendment
☒ Other

OPP Identifier Number

207769

Section I

1. Company/Product Number 524-445	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section II

<input type="checkbox"/> Amendment - Explain below	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 12/9/93
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed labels: Supplemental label for aerial application in Fresno County, CA.

Section III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted.		If "Yes," Unit Package wgt.	No. per container	If "Yes," Package wgt.	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) of Retail Container various		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product	
6. Manner In Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input checked="" type="checkbox"/> Other (vinyl glued)			

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Manager, Regulatory Affairs	
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date January 28, 1994	

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. ...indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

1. **Self-explanatory.**
6. **EPA Use Only.**

DEC - 9 1993

Ms. Lydia A. Suba
Monsanto Company
700 14th Street, N.W., Suite 1100
Washington, D.C. 20005

Dear Ms. Suba:

Subject: Roundup Herbicide (Tank-Mixes for Non-Crop Areas)
EPA Registration No. 524-445
Your Application Dated September 22, 1993

The labeling submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. Please submit five (5) copies of your final printed labeling before you release the product for shipment.

Note that this labeling does not bear the required Worker Protection statements as outlined in PR Notices 93-7 and 93-11. We note that you have submitted labels in accordance with the instructions in those Notices. The new protective language in those submissions must be melded into this label for any shipments released after the deadlines that have been established. You may opt to do so immediately if you are electing the self-verification option, or after acceptance by the special Agency Worker Protection Standard review group. Finished printed labels should be submitted after acceptance by the WPS group and in accordance with their instructions.

Sincerely,

VKW
Robert J. Taylor
Product Manager 25
Fungicide-Herbicide Branch
Registration Division (H7505C)

SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide, the label for tank mix products and this supplement.

ROUNDUP

HERBICIDE BY MONSANTO

EPA Reg. No. 524-445

ROUNDUP HERBICIDE AND TANK MIXTURES FOR NONCROP AREAS, INCLUDING RAILROAD RIGHTS-OF-WAY, UTILITY SUBSTATIONS, AIRPORTS, INDUSTRIAL PLANTS, ROADSIDES, STORAGE AREAS AND SIMILAR SITES.

Keep out of reach of children.

WARNING!

In case of emergency involving this product, call Collect, day or night, 314-694-4000.

®Roundup is a registered trademark of Monsanto Company.

Directions for Use

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

See the "GENERAL INFORMATION", "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" and "NONCROP USES" sections of the label booklet for Roundup for essential product information.

Do not allow spray mixtures of this herbicide to mist, drip, drift or splash onto desirable vegetation since injury or destruction may occur. Do not apply when wind or other conditions favor drift.

See the "WEEDS CONTROLLED" section of the Roundup label booklet for rate recommendations. For difficult to control species, where dense stands occur, or where conditions for control are not ideal, 5 to 10 quarts per acre of this product may be used for improved results.

with COMMENT
In EPA Letter Dated:

DEC - 9 1993

TANK MIXTURES

This product provides control of the emerged weeds listed in the label booklet. When applied as a tank mixture, the following herbicides will provide preemergence and/or postemergence control of the weeds listed in the individual product labels.

The following list of products may be tank mixed with this product. Any recommended rate of this product may be used in a tank mixture with these products.

<u>Tank Mix Product</u>	<u>Rate per Acre</u>
Arsenal™ *	0.5 to 4 pints
Banvel	1 to 4 pints
2,4-D	0.5 to 1 pound
Garlon™ 3A	1 to 6 pints
Garlon 4	1 to 6 pints
Diuron	4 to 8 pounds
Diuron + 2,4-D	4 to 8 pounds + 0.5 to 1 pound
Diuron + Garlon 3A	4 to 10 pounds + 1 to 2 pints
Diuron + Garlon 4	4 to 10 pounds + 1 to 2 pints
Hyvar™ X	4 to 8 pounds
Hyvar X + 2,4-D	4 to 8 pounds + 0.5 to 1 pound
Hyvar X + Garlon 3A	4 to 8 pounds + 1 to 2 pints
Hyvar X + Garlon 4	4 to 8 pounds + 1 to 2 pints
Krovar™ I DF	4 to 6 pounds
Krovar I DF + 2,4-D	4 to 6 pounds + 0.5 to 1 pound
Krovar I DF + Garlon 3A	4 to 6 pounds + 1 to 2 pints
Krovar I DF + Garlon 4	4 to 6 pounds + 1 to 2 pints
Oust™	2 to 6 ounces
Oust + 2,4-D	2 to 6 ounces + 0.5 to 1 pound
Oust + Garlon 3A	2 to 6 ounces + 1 to 2 pints
Oust + Garlon 4	2 to 6 ounces + 1 to 2 pints
Spike™ 80W	2 to 5 pounds
Spike 80W + 2,4-D	2 to 5 pounds + 0.5 to 1 pound
Spike 80W + Garlon 3A	2 to 5 pounds + 1 to 2 pints
Spike 80W + Garlon 4	2 to 5 pounds + 1 to 2 pints

*Arsenal is not approved for use in the state of California.

Refer to the individual product labels for specific noncrop sites, rates, carrier volumes and precautionary statements.

Read and carefully observe the label claims, cautionary statements, recommended use rates and all other information on the labels of all products used in these tank mixtures. Use according to the most restrictive label directions for each product in the mixture.

Maintain good agitation at all times during the mixing process. Ensure that the tank mix products are well mixed with the spray solution before adding this product.

Mix only the quantity of spray solution which can be used during the same day. Tank mixtures allowed to stand overnight may result in reduced weed control.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Nonionic surfactants which are labeled for use with herbicides may be used. Use a 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution). Use surfactants that contain at least 50 percent active ingredient. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

When used in combination as recommended by Monsanto Company, the liability of Monsanto shall in no manner extend to any damage, loss or injury not solely and directly caused by the inclusion of the Monsanto product in such combination use.

Read "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.

TMArsenal is a trademark of American Cyanamid Company.

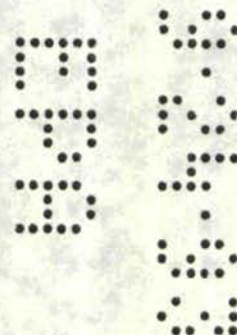
TMBanvel is a trademark of Sandoz Crop Protection Corporation.

TMGarlon and Spike are trademarks of DowElanco Products Company.

TMHyvar, Krovar and Oust are trademarks of E. I duPont de Nemours and Company.

MONSANTO COMPANY 1993

MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167



SUBMISSION REVIEW RECORD				1. REGISTRATION NUMBER		CYCLE	2. DATE RECEIVED		
3. 3C/D PUBLICATION NECESSARY <input type="checkbox"/> YES <input type="checkbox"/> NO				4. PETITION NO.		5. RECEIVED PM TEAM			
6. METHOD OF SUPPORT <input type="checkbox"/> 2A <input type="checkbox"/> 2B <input type="checkbox"/> 2C				7. PRODUCT MANAGER		NO.	8. PROJECTED RETURN		
9. DATE PULLED		10. DATE PUBLISHED		11. ACTION TYPE		CODE	12. OUTGOING DATE		
REV. SEQ.	REV. TYPE	CODE	REVIEW TYPE	REVIEWER CODE (Initials)	SIGNATURE OF REVIEWER	COM. MENT CODE	DATE REVIEW COMPLETED		
							MO	DAY	YR
	A		REVIEWABILITY TEAM						
	B		PRODUCT MANAGER TEAM EFFICACY REVIEW						
	C		PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW						
	D		PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW						
	E		PRODUCT MANAGER TEAM RESUBMISSION REVIEW						
	F		PRODUCT MANAGER		UKW NAC		12	06	93
	G		INTERAGENCY REFERRAL						
	H		COST-BENEFIT REVIEW						
	I		PUBLIC COMMENTS REVIEW						
	J		EEE BRANCH INSECTICIDE EFFICACY						
	K		EEE BRANCH HERBICIDE EFFICACY						
	L		EEE BRANCH FUNGICIDE EFFICACY						
	M		EEE BRANCH RODENTICIDE EFFICACY						
	N		EEE BRANCH DISINFECTANT EFFICACY						
	O		CHEMISTRY BRANCH RESIDUE CHEMISTRY						
	P		EEE BRANCH ENVIRONMENTAL CHEMISTRY						
	Q		TOXICOLOGY BRANCH HUMAN SAFETY						
	R		EEE BRANCH ENVIRONMENTAL SAFETY						
	S								
	T								
PRODUCT MANAGER SIGNATURE					TYPE OF RESPONSE				CODE

Monsanto

Monsanto Company
Suite 1100
700 14th Street, N.W.
Washington, D.C. 20005

September 22, 1993

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor
Product Manager (25)

Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**
Submission of Supplemental Label (Tank Mixture of Roundup
Herbicide with various products for use in non-crop areas).

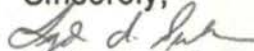
Dear Sir:

Roundup Herbicide (EPA Reg. No. 524-445) is approved by the Agency for use in various noncrop areas including railroad rights-of-way, utility substations, airports, industrial plants, roadsides, storage areas & similar sites.


Monsanto at this time is submitting a supplemental label that compiles together all the products that may be tank mixed with Roundup Herbicide for use in these noncrop areas. Since these other products are registered for the indicated uses, no additional data or information is needed to support this supplemental registration.

Monsanto requests Agency approval of the enclosed supplemental label for Roundup. Attached are five (5) copies of the label for your approval together with a signed EPA Application for Pesticide Amendment Form 8570-1. If you have any questions regarding this submission, please contact Dr. Russell Schneider at our Washington office or me at 314-694-2124.

Sincerely,



Lydia A. Suba
Registration Manager

(A) 	United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration <input checked="" type="checkbox"/> Amendment <input type="checkbox"/> Other	OPP Identifier Number 185024
	Application for Pesticide:		

Section I

1. Company/Product Number 524-445	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

Section II

<input checked="" type="checkbox"/> Amendment - Explain below	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - explain below.

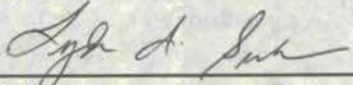
Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of supplemental label - Roundup® Herbicide tank mixing with various products for non crop uses.

Section III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal	<input type="checkbox"/> Plastic
				<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
				<input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted.		If "Yes," Unit Package wgt.	No. per container	If "Yes," Package wgt.	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) of Retail Container various		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner In Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other (_____)			

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director		Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					
2. Signature 		3. Title Registration Manager		6. Date Application Received (Stamped)	
4. Typed Name Lydia A. Suba		5. Date 9/22/93			

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

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2. Confidential Statement of Formula (EPA Form 8570-4);
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Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

DEC - 9 1993

Dr. Shelia A. Schuette
Monsanto Company
700 14th Street, N.W., Suite 1100
Washington, D.C. 20005

Dear Dr. Schuette:


Subject: Roundup Herbicide (Revised Confidential Statement of Formula)
EPA Registration No. 5244-445
Your Application Dated October 8, 1993

The scientific review and evaluation of the revised confidential statement of formula have been completed. The requested CSF is acceptable and our records have been modified accordingly.

Sincerely,

Robert J. Taylor *UKW*
Product Manager 25
Fungicide-Herbicide Branch
Registration Division (H7505C)

SUBMISSION REVIEW RECORD				1. REGISTRATION NUMBER				2. DATE RECEIVED			
3. 3C/D PUBLICATION NECESSARY				4. PETITION NO.				5. RECEIVED PM TEAM			
<input type="checkbox"/> YES <input type="checkbox"/> NO								MO DAY YR 			
6. METHOD OF SUPPORT				7. PRODUCT MANAGER				8. PROJECTED RETURN			
<input type="checkbox"/> 2A <input type="checkbox"/> 2B <input type="checkbox"/> 2C								NO. MO DAY YR 			
9. DATE PULLED		10. DATE PUBLISHED		11. ACTION TYPE				12. OUTGOING DATE			
								CODE MO DAY YR 			
REV. SEQ.	REVIEW TYPE CODE	REVIEW TYPE	REVIEWER CODE (Initials)	SIGNATURE OF REVIEWER				COM. MENT CODE	DATE REVIEW COMPLETED		
									MO	DAY	YR
	A	REVIEWABILITY TEAM									
	B	PRODUCT MANAGER TEAM EFFICACY REVIEW									
	C	PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW									
	D	PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW									
	E	PRODUCT MANAGER TEAM RESUBMISSION REVIEW									
	F	PRODUCT MANAGER									
	G	INTERAGENCY REFERRAL									
	H	COST-BENEFIT REVIEW									
	I	PUBLIC COMMENTS REVIEW									
	J	EEE BRANCH INSECTICIDE EFFICACY									
	K	EEE BRANCH HERBICIDE EFFICACY									
	L	EEE BRANCH FUNGICIDE EFFICACY									
	M	EEE BRANCH RODENTICIDE EFFICACY									
	N	EEE BRANCH DISINFECTANT EFFICACY									
	O	CHEMISTRY BRANCH RESIDUE CHEMISTRY									
	P	EEE BRANCH ENVIRONMENTAL CHEMISTRY									
	Q	TOXICOLOGY BRANCH HUMAN SAFETY									
	R	EEE BRANCH ENVIRONMENTAL SAFETY									
	S										
	T										
PRODUCT MANAGER SIGNATURE				TYPE OF RESPONSE				CODE			

(A)	 United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration <input checked="" type="checkbox"/> Amendment <input type="checkbox"/> Other	OPP Identifier Number <div style="text-align: right; font-size: 1.2em; color: red;">207706</div>
Application for Pesticide:			

Section I

1. Company/Product Number <div style="text-align: right;">524-445</div>	2. EPA Product Manager <div style="text-align: right;">Robert J. Taylor</div>	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) <div style="text-align: right;">Roundup® Herbicide</div>	PM# <div style="text-align: right;">25</div>	
5. Name and Address of Applicant (Include ZIP Code) <div style="text-align: right;">Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005</div> <div style="margin-top: 10px;"> <input type="checkbox"/> Check if this is a new address </div>		
6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____		

Section II

<input checked="" type="checkbox"/> Amendment - Explain below <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application. <input type="checkbox"/> Other - explain below.
---	---

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of revised CSF

Section III

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Unit Package wgt. _____ No. per container _____	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Package wgt. _____ No. per container _____	2. Type of Container <input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted.			
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container	4. Size(s) of Retail Container <div style="text-align: right;">various</div>		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product
6. Manner In Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Other (vinyl glued) <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name <div style="text-align: right;">Dr. Russell P. Schneider</div>	Title <div style="text-align: right;">Agricultural Regulation Director</div>	Telephone No. (include Area Code) <div style="text-align: right;">(202) 783-2460</div>
Certification		
I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment both under applicable law.		
2. Signature <div style="text-align: right;">  </div>	3. Title <div style="text-align: right;">Registration Manager</div>	
4. Typed Name <div style="text-align: right;">Sheila A. Schuette, Ph.D.</div>	5. Date <div style="text-align: right;">Oct. 7, 1993</div>	
6. Date Application Received (Stamped) <div style="text-align: right; font-size: 1.5em; font-weight: bold;">24</div>		

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
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SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

Monsanto

Monsanto Company
Suite 1100
700 14th Street, N.W.
Washington, D.C. 20005

October 7, 1993

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor
Product Manager (25)

Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**
Submission of Revised Confidential Statement of Formula

Dear Sir:

Monsanto is submitting a revised Confidential Statement of Formula (CSF) for Roundup Herbicide (EPA Reg. No. 524-445). The original CSF for this product was submitted to the Agency in September, 1990 (MRID 41642300) and was approved on February 1, 1991. The revised CSF we are now submitting has been updated to include current suppliers, to present components in a more consistent manner, and to comply with PR Notice 91-2.

Specifically, the following changes have been made:

- The addition of [REDACTED] as a supplier. The Agency was previously notified of this new supplier in a letter dated July 16, 1991.
- We have made minor adjustments to the certified limits to ensure that the label value of 41.0% will be the nominal value, as specified in PR Notice 91-2.
- The [REDACTED] has been deleted. This ingredient is a contained in the CSF for the 62% salt solution (EPA Reg. No. 524-333) and a separate listing here is redundant.

Inert ingredient information may be entitled to confidential treatment
Product ingredient source information may be entitled to confidential treatment

Once approved, this revised CSF will supersede all previous versions of the CSF for all brand names under this registration.

If you have any questions regarding this submission, please contact Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.
Registration Manager
(314) 694-7248

cc: R.P. Schneider

DEC - 9 1993

Dr. Sheila A. Schuette
Monsanto Company
700 14th Street, N.W., Suite 1100
Washington, D.C. 20005

Dear Dr. Schuette:

Subject: Roundup Herbicide (Use of Hooded Sprayers In Sugarcane)
EPA Registration No. 524-445
Your Application Dated November 8, 1993

This acknowledges receipt of your application dated November 8, 1993 transmitting a request to use hooded sprayers in sugarcane. This request has been routed to the proper discipline for comment. Further action will await completion of scientific review and evaluation.

Sincerely,

Vkw
Robert J. Taylor
Product Manager 25
Fungicide-Herbicide Branch
Registration Division (H7505C)

Monsanto

Monsanto Company
Suite 1100
700 14th Street, N.W.
Washington, D.C. 20005

November 8, 1993

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor
Product Manager (25)

Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**
Supplemental Label for Use with Hooded Sprayers in Sugarcane

Dear Sir:

Enclosed for Agency review and approval are five (5) copies of a supplemental label for Roundup® herbicide for use with hooded sprayers in sugarcane. Monsanto believes that the proposed label is supported by the data contained in MRID 00108140, which provides residue data for spot treatments in sugarcane. Mr. Robert S. Quick of EPA concurred that the existing data would likely support this proposed new use at a meeting on July 28, 1993. Our rationale is discussed in detail below.

Spot Treatment Use in Sugarcane

In June, 1976, Monsanto submitted residue and metabolism data for use of glyphosate in sugarcane (MRID 00108140; PP 6G1826). The residue report contained data for both preplant and spot treatment uses. The spot treatment was applied as a postemergent, directed broadcast treatment -- an "interline" treatment. Glyphosate was applied at 3 and 6 lb a.e./A (equivalent to 8 qt/A of Roundup) as a directed spray to six-month old sugarcane. Applications were made by hand knapsack, just prior to close-in. Sprays were directed near ground level between crop rows to avoid most of the foliage. Maximum glyphosate residues were 0.09 ppm from the 6 lb a.e./A treatment, six months after

treatment. Based on these data, EPA established a tolerance of 0.1 ppm for glyphosate and its major metabolite AMPA on sugarcane on March 23, 1979 (44 FR 17675).

Hooded Sprayers


Hooded sprayers are a recent innovation in shielded sprayer technology that have been commercially available for only the past few years. Unlike traditional shielded sprayers, these hooded sprayers are completely enclosed on all four sides and the top. They are mounted on the tractor such that the bottom of the hood is in very close contact with the ground, and herbicide applications are made to the ground between the crop rows. The spray nozzles for applying the herbicide are located on the inside of the hood, so that only the weeds in between the crop rows are contacted with the spray; the crop itself is extremely well shielded from the herbicide.

Proposed Use of Hooded Sprayers in Sugarcane

Monsanto is submitting the enclosed label for use of Roundup herbicide with hooded sprayers in sugarcane. The design of the hooded sprayers will result in even less contact of the herbicide spray with the sugarcane than the approved interline spot treatment use. We believe, therefore, that the treated sugarcane will not contain significant glyphosate residues and that the current 0.1 ppm tolerance will not be exceeded.

Monsanto requests that the Agency approve and stamp the enclosed supplemental label. An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed. If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.
Manager, Regulatory Affairs
(314) 694-7248

cc: R.P. Schneider
L.L. Gingerich

DEC - 9 1993

Dr. Sheila A. Schuette
Monsanto Company
700 14th Street, N.W., Suite 1100
Washington, D.C. 20005

Dear Dr. Schuette:

Subject: Roundup Herbicide (Aerial Application in Fresno County, California)
EPA Registration No. 524-445
Your Application Dated November 22, 1993

The labeling submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. Please submit five (5) copies of your final printed labeling before you release the product for shipment.

Note that this labeling does not bear the required Worker Protection statements as outlined in PR Notices 93-7 and 93-11. We note that you have submitted labels in accordance with the instructions in those Notices. The new protective language in those submissions must be melded into this label for any shipments released after the deadlines that have been established. You may opt to do so immediately if you are electing the self-verification option, or after acceptance by the special Agency Worker Protection Standard review group. Finished printed labels should be submitted after acceptance by the WPS group and in accordance with their instructions.

Sincerely,

Robert J. Taylor *vkW*
Product Manager 25
Fungicide-Herbicide Branch
Registration Division (H7505C)

SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE AND THE "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" SUPPLEMENTAL LABEL BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide, the "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" supplemental label, and this supplement.

ROUNDUP®

Herbicide by Monsanto

(EPA Reg. No. 524-445)

FOR AERIAL APPLICATION IN FRESNO COUNTY, CA ONLY From February 15, through March 31 only.

For aerial application outside these dates, refer to the "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" statewide supplemental label.

Keep out of reach of children.

WARNING! AVISO!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

Roundup® is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of the herbicide application.

with COMMENTS
in EPA Letter Dated:

DEC - 9 1993

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.

524-445

See the "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for essential product information.

See the "CROPPING SYSTEMS" section of the label booklet for specific recommendations on the use of this product.

Applicable Area

This supplement only applies to the area contained inside the following boundaries within Fresno County, California only.

North: Fresno County line
South: Fresno County line
East: State Highway 99
West: Fresno County line

General Information

Always read and follow the label directions and precautionary statements for all products used in the aerial application.

Observe the following directions to minimize off-site movement during aerial application of Roundup herbicide. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor, and aerial applicator.

Written Recommendations

A written recommendation MUST be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24-hours prior to the application. This written recommendation MUST state the proximity of surrounding crops, and that conditions of each manufacturer's applicable product label(s) and this label have been satisfied.

Aerial Applicator Training and Equipment

Aerial application of Roundup herbicide is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight, and certified at a Fresno County Agricultural Commissioner approved fly-in. Test and calibrate spray equipment at intervals sufficient to insure that proper rates of herbicides and adjuvants are being applied during commercial use. Applicator must document such calibrations and testing. Demonstration of performance at Fresno County Agricultural Commissioner approved "fly-ins" constitutes such documentation, or other written records showing calculations and measurements of flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

Application at night - Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

To report known or suspected misuse of Roundup herbicide call 1-800-ROUNDUP

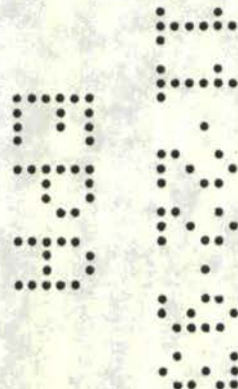
For additional information on the proper aerial application of Roundup herbicide call 916/784-1718.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label for Roundup herbicide before using this product. Those terms apply to this supplemental labeling and if those terms are not acceptable, return the product unopened at once.

MAP-

©MONSANTO COMPANY 1994

MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167



SUBMISSION REVIEW RECORD				1. REGISTRATION NUMBER				CYCLE		2. DATE RECEIVED		
3. 3C10 PUBLICATION NECESSARY				4. PETITION NO.				5. RECEIVED PM TEAM		6. PROJECTED RETURN		
<input type="checkbox"/> YES <input type="checkbox"/> NO								MO DAY YR		MO DAY YR		
6. METHOD OF SUPPORT				7. PRODUCT MANAGER				NO.		8. PROJECTED RETURN		
<input type="checkbox"/> 2A <input type="checkbox"/> 2B <input type="checkbox"/> 2C										MO DAY YR		
9. DATE PULLED		10. DATE PUBLISHED		11. ACTION TYPE				CODE		12. OUTGOING DATE		
12/6/93				Annual Appl for Framer Co. CA 300						MO DAY YR		
REV. SEQ.	REVIEW TYPE CODE	REVIEW TYPE	REVIEWER CODE (Initials)	SIGNATURE OF REVIEWER				COM. COMMENT CODE	DATE REVIEW COMPLETED			
									MO	DAY	YR	
	A	REVIEWABILITY TEAM										
	B	PRODUCT MANAGER TEAM EFFICACY REVIEW										
	C	PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW										
	D	PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW										
	E	PRODUCT MANAGER TEAM RESUBMISSION REVIEW										
	F	PRODUCT MANAGER		UIC/NAC					12	06	93	
	G	INTERAGENCY REFERRAL										
	H	COST-BENEFIT REVIEW										
	I	PUBLIC COMMENTS REVIEW										
	J	EEE BRANCH INSECTICIDE EFFICACY										
	K	EEE BRANCH HERBICIDE EFFICACY										
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	M	EEE BRANCH RODENTICIDE EFFICACY										
	N	EEE BRANCH DISINFECTANT EFFICACY										
	O	CHEMISTRY BRANCH RESIDUE CHEMISTRY										
	P	EEE BRANCH ENVIRONMENTAL CHEMISTRY										
	Q	TOXICOLOGY BRANCH HUMAN SAFETY										
	R	EEE BRANCH ENVIRONMENTAL SAFETY										
	S											
	T											
PRODUCT MANAGER SIGNATURE				TYPE OF RESPONSE						CODE		

(A) United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	Application for Pesticide: <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px;"></div> Registration </div> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;">X</div> Amendment </div> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px;"></div> Other </div>	OPP Identifier Number <div style="font-size: 24px; color: red; text-align: center;">207724</div>
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Section I

1. Company/Product Number <div style="text-align: center;">524-445</div>	2. EPA Product Manager <div style="text-align: center;">Robert J. Taylor</div>	3. Proposed Classification <div style="display: flex; justify-content: space-around;"> <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted </div>
4. Company/Product (Name) <div style="text-align: center;">Roundup® Herbicide</div>	PM# <div style="text-align: center;">25</div>	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005 <div style="margin-top: 10px;"> <input type="checkbox"/> Check if this is a new address </div>		
6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____		

Section II

<input checked="" type="checkbox"/> Amendment - Explain below <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input type="checkbox"/> Notification - Explain below.	<div style="border: 1px solid black; height: 40px; margin-bottom: 5px;"></div> Final printed labels in response to Agency letter dated _____ <div style="border: 1px solid black; height: 20px; margin-bottom: 5px;"></div> "Me Too" Application. <div style="border: 1px solid black; height: 20px;"></div> Other - explain below.
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Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Supplemental label for aerial application in Fresno County, CA

Section III**1. Material This Product Will Be Packaged In:**

Child-Resistant Packaging <div style="display: flex; align-items: center;"> <input type="checkbox"/> Yes* <div style="border: 1px solid black; width: 20px; height: 20px; margin-left: 5px; text-align: center; line-height: 20px;">X</div> No </div>	Unit Packaging <div style="display: flex; align-items: center;"> <input type="checkbox"/> Yes <div style="border: 1px solid black; width: 20px; height: 20px; margin-left: 5px; text-align: center; line-height: 20px;">X</div> No </div>	Water Soluble Packaging <div style="display: flex; align-items: center;"> <input type="checkbox"/> Yes <div style="border: 1px solid black; width: 20px; height: 20px; margin-left: 5px; text-align: center; line-height: 20px;">X</div> No </div>	2. Type of Container <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;">X</div> Metal <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;"></div> Plastic <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;"></div> Glass <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;"></div> Paper <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;"></div> Other (Specify) _____ </div>
* Certification must be submitted. If "Yes," Unit Package wgt. _____ No. per container _____		If "Yes," Package wgt. _____ No. per container _____	

3. Location of Net Contents Information <div style="display: flex; align-items: center;"> <input type="checkbox"/> Label <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Container </div> </div>	4. Size(s) of Retail Container <div style="text-align: center;">various</div>	5. Location of Label Directions <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;">X</div> On Label <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;">X</div> On Labeling accompanying product </div>
6. Manner In Which Label Is Affixed To Product <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;"></div> Lithograph <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;"></div> Paper glued <div style="border: 1px solid black; width: 20px; height: 20px; margin-right: 5px; text-align: center; line-height: 20px;"></div> Stenciled <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Other (vinyl glued) </div> </div>		

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name <div style="text-align: center;">Dr. Russell P. Schneider</div>	Title <div style="text-align: center;">Agricultural Regulation Director</div>	Telephone No. (Include Area Code) <div style="text-align: center;">(202) 783-2460</div>

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment both under applicable law.

2. Signature 	3. Title <div style="text-align: center;">Manager, Regulatory Affairs</div>	6. Date Application Received (Stamped) <div style="font-size: 24px; font-weight: bold;">36</div>
4. Typed Name <div style="text-align: center;">Sheila A. Schuette, Ph.D.</div>	5. Date <div style="text-align: center;">Nov. 22, 1993</div>	

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.



Certification with Respect to Citation of Data

Applicants Name and Address

Monsanto Company
700 14th Street, N.W., Suite 1100
Washington, D.C. 20005

EPA File Symbol/Registration Number

524-445

Product Name

Roundup® Herbicide

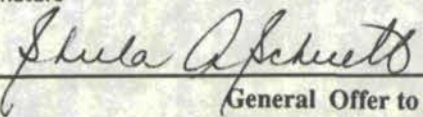
Date of Application

November 22, 1993

NOTE: If your product is a 100% repackaging of another EPA-registered product that you purchase, and is labeled for the same uses, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application. (Check the appropriate boxes, in items 2 and 3 below, that pertain to your application.)
2. I certify that, for each study cited in support of this application for registration that is an exclusive use study,
☒ I am the original submitter*; or
☐ I have obtained the written permission of the original data submitter to cite that study*
3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study:
 - a. ☒ I am the original data submitter*; or
☐ I have obtained the written permission of the original data submitter to cite that study*; or
 - b. ☐ I have notified in writing the companies that have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: (Check one)
☐ All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method*). (Also, sign the General Offer Statement below.)
☐ Those companies that have submitted the studies which I have cited (Selective method*).

* A Data Matrix identifying these studies is attached. (Note: a Data Matrix is not required under the cite-all method.)

Signature 	Name and Title Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs	Date Nov. 23, 1993
General Offer to Pay: I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required.		
Signature	Name and Title	Date

Paperwork Reduction Act Notice

Public reporting burden for this collection of information is estimated to 1.0 hours per response, including time for reviewing instructions, certifying the existence of the appropriate data, and completing and mailing this form. Send comments regarding the burden estimate or any other aspect of this certification process including suggestions for reducing the burden to:

Chief, Information Policy Branch, PM-223
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460

and to

Office of Management and Budget
Paperwork Reduction Project (2070-0060)
Washington, DC 20503

Monsanto

Monsanto Company
Suite 1100
700 14th Street, N.W.
Washington, D.C. 20005

November 22, 1993

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor
Product Manager (25)

Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**
Supplemental Label for Aerial Application in Fresno County, CA

Dear Sir:

Enclosed for Agency review and approval are five (5) copies of a supplemental label for Roundup herbicide (EPA Reg. No. 524-445). This supplemental label, which has been requested by the state of California, provides detailed instructions for aerial application of Roundup in Fresno County, CA from February 15 through March 31. The label requires that a written recommendation must be submitted to the Fresno County Agricultural Commissioner 24 hours prior to any aerial application. Aerial application is also limited to pilots who have successfully completed an approved training program and all aircraft must be inspected, critiqued in flight, and certified.

An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed. Monsanto requests that the Agency approve this supplemental label as soon as possible. Approval before the end of this year would allow adequate time to get the label printed and distributed to all of the aerial applicators in Fresno County before the use season begins.

If you have any questions regarding this submission, please contact Russ Schneider or me.

Sincerely,

Sheila A. Schuette

Sheila A. Schuette, Ph.D.
Manager, Regulatory Affairs
(314) 694-7248

cc: R.P. Schneider
L.L. Gingerich
S.A. Adams

9535

Monsanto

Monsanto Company
Suite 1100
700 14th Street, N.W.
Washington, D.C. 20005

July 30, 1993

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor
Product Manager (25)

Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**
Submission of Final Printed Labels:
Supplemental Label for Wiper Applications in Wheat

Dear Sir:

Monsanto is submitting final printed labels of a Roundup® herbicide supplemental label for your files. This supplemental label, which allows wiper applications in wheat to control common rye, was approved by the Agency on June 17, 1993.

Enclosed are five (5) copies of the label (version MAP-3538-7/16/93).


If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.
Registration Manager
(314) 694-7248

cc: R.P. Schneider

(A) 	United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number 190605
	Application for Pesticide:		
	Section I		

1. Company/Product Number 524-445	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 2005 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

Section II

Amendment - Explain below	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 6/17/93
Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
Notification - Explain below.	<input type="checkbox"/> Other - explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed labels: Supplemental label for Wiper Applications in Wheat

Section III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted.		If "Yes," Unit Package wgt.	No. per container	If "Yes," Package wgt.	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) of Retail Container various		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product	
6. Manner In Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input checked="" type="checkbox"/> Other (Vinyl Glued)			

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director		Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					6. Date Application Received (Stamped) 
2. Signature 		3. Title Registration Manager			
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date July 30, 1993			

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

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2. Confidential Statement of Formula (EPA Form 8570-4);
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4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page, if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup and this supplement.



NOT REVIEWED

In Accordance with PR Notice 82-2,
Based on Draft Labeling Dated 6/17/93

EPA Reg. No. 524-445

WIPER APPLICATIONS FOR COMMON RYE IN WHEAT

Keep out of reach of children.

WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

*Roundup is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION", "MIXING, ADDITIVES and APPLICATION INSTRUCTIONS" and "SELECTIVE EQUIPMENT" sections of the label booklet for Roundup herbicide for essential product performance information.

RECOMMENDATIONS

This product controls common rye, or cereal rye, which is growing in wheat. Make applications with a rope wick, sponge, or other wiper applicator.

Do not use roller applications.

Applications may be made after common rye has headed and achieved maximum height growth, when the rye is at least 6 inches above the wheat crop. Repeat applications may be needed to control plants that were not above the wheat at the time of the first application. Make the final application at least 35 days prior to harvest.

Mix 1 gallon of this product in 2 gallons of water to prepare a 33 percent solution.

Applications should be made when common rye plants are actively growing and free from dust or moisture (such as dew).

Do not permit herbicide solution to contact desirable vegetation.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

MAP-3538-7/16/93

©Monsanto Company 1993

MONSANTO COMPANY:
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167

Monsanto

Monsanto Company
Suite 1100
700 14th Street, N.W.
Washington, D.C. 20005

July 15, 1993

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor
Product Manager (25)

Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**
Submission of Final Printed Labels:
Supplemental Label for Coastal Bermudagrass Pastures

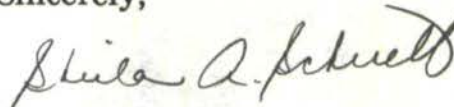
Dear Sir:

Monsanto is submitting final printed labels of a Roundup® herbicide supplemental label for your files. This supplemental label, which allows applications in coastal Bermudagrass pastures prior to spring growth or immediately after first cutting, was approved by the Agency on May 26, 1993.

Enclosed are five (5) copies of the label (version MAP-3527-6/22/93).


If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.
Registration Manager
(314) 694-7248

cc: R.P. Schneider

(A) 	United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number 185088
	Application for Pesticide:		

Section I

1. Company/Product Number 524-445	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

Section II

<input type="checkbox"/> Amendment - Explain below	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated May 26, 1993
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - explain below.


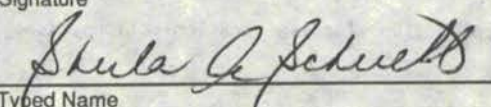
Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Roundup Herbicide - submission of final printed label: Supplemental label for coastal bermudagrass pastures

Section III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted.		If "Yes," Unit Package wgt.	No. per container	If "Yes," Package wgt.	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) of Retail Container various		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product	
6. Manner In Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input checked="" type="checkbox"/> Other (vinyl glued)			

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director		Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					6. Date Application Received (Stamped) 
2. Signature 		3. Title Registration Manager			
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date July 15, 1993			

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products, registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
- EPA Use Only.

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup and this supplement.



NOT REVIEWED
In Accordance with PR Notice 82-2,
Based on Draft Labeling Dated

5/26/93

EPA Reg. No. 524-445

FOR THE CONTROL OF ANNUAL WEEDS IN COASTAL BERMUDAGRASS PASTURES PRIOR TO SPRING GROWTH OR IMMEDIATELY AFTER FIRST CUTTING

Keep out of reach of children.

WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

*Roundup is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup herbicide for essential product performance information.

RECOMMENDATIONS

This product may be applied at 16 ounces per acre to control the weeds listed below and most other winter annual grass and broadleaf weeds in established coastal bermudagrass pastures.

barley, little <i>Hordeum pusillum</i>	mustard, wild <i>Sinapis umbellatum</i>
bluegrass, annual <i>Poa annua</i>	oats <i>Arvena sativa</i>
cheat <i>Bromus secalinus</i>	ryegrass, Italian <i>Lolium multiflorum</i>
crabgrass <i>Digitaria spp.</i>	sandbur, field <i>Cenchrus spp.</i>
henbit <i>Lamium amplexicaule</i>	sunflower <i>Helianthus annuus</i>
johnsongrass, seedling <i>Sorghum halepense</i>	wheat <i>Triticum aestivum</i>

TIMING OF APPLICATION:

APPLICATIONS PRIOR TO SPRING GROWTH - Apply this product in the late winter or early spring but before new coastal bermudagrass growth begins in the spring. Applications to new growth can damage the bermudagrass.

Remove domestic livestock from the pasture before making the application. Wait **60 days** after making this application before grazing or harvesting the treated area.

APPLICATIONS FOLLOWING THE FIRST CUTTING - Apply this product after the first

bermudagrass cutting when the bermudagrass has not yet begun to regrow. Applications made after regrowth has begun can damage the bermudagrass.

Remove domestic livestock from the pasture before making the application. Wait **28 days** after making this application before grazing or harvesting the treated area.

NOTE: ONLY ONE APPLICATION PER YEAR MAY BE MADE TO ANY ONE FIELD. A SPRING APPLICATION PRIOR TO GROWTH AND AN APPLICATION FOLLOWING THE FIRST CUTTING MAY NOT BE MADE ON THE SAME FIELD DURING THE SAME YEAR.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup herbicide before using. These terms apply to this supplemental labeling, and if these terms are not acceptable, return the product unopened at once.

MAP-3527-0122/93

©Monsanto Company 1993

MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167

Monsanto

Monsanto Company
Suite 1100
700 14th Street, N.W.
Washington, D.C. 20005

July 7, 1993

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor
Product Manager (25)

Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**
Submission of Final Printed Labels:
Supplemental Label for Tree Nuts

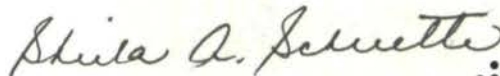
Dear Sir:

Monsanto is submitting final printed labels of a Roundup® herbicide supplemental label for your files. This supplemental label, which allows applications up to three days prior to harvest of tree nuts, was approved by the Agency on June 17, 1993.

Enclosed are five (5) copies of the label (version MAP-3536-6/29/93).


If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.
Registration Manager
(314) 694-7248

cc: R.P. Schneider

(A) 	United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration <input checked="" type="checkbox"/> Amendment <input type="checkbox"/> Other	OPP Identifier Number 185081
	Application for Pesticide:		

Section I

1. Company/Product Number 524-445	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

Section II

<input type="checkbox"/> Amendment - Explain below	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 6/17/93
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - explain below.

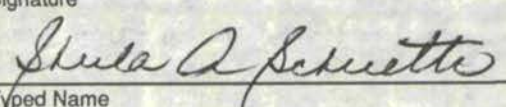
Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Final printed supplemental label for tree nuts.

Section III

1. Material This Product Will Be Packaged In:				2. Type of Container.	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted.		If "Yes," Unit Package wgt.	No. per container	If "Yes," Package wgt.	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) of Retail Container various		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product	
6. Manner In Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input checked="" type="checkbox"/> Other (vinyl glued)			

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director	
		Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped) 
2. Signature 		3. Title Registration Manager	
4. Typed Name Sheila A. Schuette, Ph.D.		5. Date July 7, 1993	

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PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

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5. Three copies of any data submitted;
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2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

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1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

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2. **Indicate the size of the individual packets and number per retail container.**
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
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5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

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- 1-5. Self-explanatory.
6. EPA Use Only.

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING
WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup and this supplement.

NOT REVIEWED
In Accordance with PR Notice 82-2.
Based on Draft Labeling Dated

6/17/93

Roundup
Herbicide by **Monsanto**

EPA Reg. No. 524-445

FOR WEED CONTROL IN NUT CROPS UP TO THREE DAYS PRIOR TO HARVEST

Keep out of reach of children.

WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

*Roundup is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This supplemental label and the label booklet for Roundup herbicide must be in the possession of the user at the time of herbicide application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup

for essential product performance information.

RECOMMENDATIONS

This product is recommended for weed control in established groves of almonds, beechnuts, Brazil nuts, butternuts, cashews, chestnuts, chinquapins, filberts (hazelnuts), hickory nuts, macademia nuts, pecans, black walnuts and English walnuts. Applications can be made with both boom equipment, CDA, shielded sprayers, hand-held and high-volume wands, lances, or orchard guns, or with wiper applicator equipment.

For specific rates of applications and instructions, see the "WEEDS CONTROLLED" and the "TREE AND VINE CROPS" sections of the Roundup label booklet.

Allow a minimum of 3 days between last application and harvest.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

MAP 3536-6/29/93

©Monsanto Company 1993

MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167

Monsanto

Monsanto Company
Suite 1100
700 14th Street, N.W.
Washington, D.C. 20005

June 24, 1993

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor
Product Manager (25)

Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**
Submission of Final Printed Labels:
New Enlarged Label Booklet

Dear Sir:

Monsanto is submitting final printed labels of a Roundup® herbicide label booklet for your files. This label is identical in content to the current Roundup label (version 1992-2: 898.07-000.01/53), which was submitted to the Agency on March 10, 1992 and approved April 2, 1992. The only difference is the physical size of the booklet -- the design of our new containers allows the use of these larger booklets and we believe that the customer will find them more convenient to use.


Enclosed are five (5) copies of the label (version 1993-1: 898.07-000.27/53).

If you have any questions, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.
Registration Manager
(314) 694-7248

(A)		United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number 185077	
		Application for Pesticide:			

Section I

1. Company/Product Number <div style="text-align: right; margin-right: 50px;">524-445</div>	2. EPA Product Manager <div style="text-align: right;">Robert J. Taylor</div>	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) <div style="text-align: right;">Roundup® Herbicide</div>	PM# <div style="text-align: right;">25</div>	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

Section II

<input type="checkbox"/> Amendment - Explain below <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input type="checkbox"/> Notification - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application. <input type="checkbox"/> Other - explain below.
--	--

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Final Printed Label: New enlarged Roundup Herbicide label booklet.

Section III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If "Yes," Unit Package wgt.	No. per container	<input checked="" type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted.		If "Yes," Package wgt.	No. per container		
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) of Retail Container <div style="text-align: right;">various</div>		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product	
6. Manner In Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input checked="" type="checkbox"/> Other (vinyl glued) <input type="checkbox"/> Stenciled					

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director		Telephone No. (Include Area Code) (202) 783-2460	
Certification					
I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					
2. Signature 		3. Title Registration Manager		6. Date Application Received (Stamped) <div style="text-align: center;">  </div>	
4. Typed Name Sheila A. Schuette		5. Date <div style="text-align: right; font-size: 1.2em;">June 24, 1993</div>			

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Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III. (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV. (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

Roundup[®]

Herbicide by Monsanto

Complete Directions for Use

EPA Reg. No. 524-445

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

*Roundup is a registered trademark of Monsanto Company.

This product has been approved for use in California except as stated otherwise on page 87

1993-1

898.07-000.27/53

Read each of these sections of this label for essential product performance information.

USE THESE CONVENIENT SECTION MARKERS.

TREE AND VINE CROPS

MINIMUM TILLAGE

CROPPING SYSTEMS

NONCROP USES

WEEDS CONTROLLED

MIXING, ADDITIVES AND
APPLICATION INSTRUCTIONS

GENERAL INFORMATION

Roundup®

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APPLICATION INSTRUCTIONS

GENERAL INFORMATION

Read the entire label before using this product.

Use only according to label instructions.

Read "LIMIT OF WARRANTY AND LIABILITY" before buying or using. If terms are not acceptable, return at once unopened.

REFORMULATION IS PROHIBITED. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

LIMIT OF WARRANTY AND LIABILITY

(Not applicable to consumer applications applied by the homeowner for noncommercial purposes as permitted by the supplemental labeling for one-quart containers.)

This Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. **NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE.** This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement.

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Chicory, Corn (all), Cotton, Cucumber, Dates,	
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PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

Keep out of reach of children.

WARNING!

CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY.
HARMFUL IF INHALED.

Do not get in eyes or breathe spray mist or get in or on clothing.

Wear goggles, face shield or safety glasses.

Wash thoroughly with soap and water after handling.

Remove contaminated clothing and wash before reuse.

FIRST AID: IF IN EYES, hold eyelids open and flush with plenty of water. Get medical attention.

IF INHALED, remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

IF SWALLOWED, drink promptly a large quantity of milk, egg whites, or gelatin solution. If these are not available drink large quantities of water. Get medical attention.

In case of an emergency involving this product,
Call Collect, day or night, (314) 694-4000.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

ACTIVE INGREDIENT:

* Glyphosate, N-(phosphonomethyl) glycine, in the form of its isopropylamine salt 41.0%

INERT INGREDIENTS: 59.0%

100.0%

* Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient, glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

Storage and Disposal

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

See container label for STORAGE AND DISPOSAL instructions.

GENERAL INFORMATION

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

This product, a water soluble liquid, mixes readily with water to be applied as a foliar spray for the control or destruction of most herbaceous plants. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water in accordance with label instructions.

This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay visual effects of control. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of aboveground growth and deterioration of underground plant parts.

Unless otherwise specified on this label, delay application until vegetation has emerged and reached the stages described for control of such vegetation under the "Weeds Controlled" section of this label. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow. For this reason, best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity.

Always use the higher rate of this product per acre within the recommended range when (1) weed growth is heavy or dense, or (2) weeds are growing in an undisturbed (noncultivated) area.

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust.

Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

Rainfall or irrigation occurring within 6 hours after application may reduce effectiveness. Heavy rainfall or irrigation within 2 hours after application may wash the chemical off the foliage and a repeat treatment may be required.

This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with herbicides or other materials not recommended on this label may result in reduced performance.

For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

Keep people and pets off treated areas until spray solution has dried.

DOMESTIC ANIMALS: This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

ATTENTION

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants, or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. **AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.**

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES. DO NOT APPLY WHEN WIND OR OTHER CONDITIONS FAVOR DRIFT. HAND GUN APPLICATIONS SHOULD BE PROPERLY DIRECTED TO AVOID SPRAYING DESIRABLE PLANTS. NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.

MIXING

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product (see the "Directions for Use" and "Weeds Controlled" sections of this label) near the end of the filling process and mix well. Remove hose from tank immediately after filling to avoid siphoning back into the carrier source. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

TANK MIXTURES

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Mix labeled tank mixtures of this product with water as follows:

1. Place a 20 to 35 mesh screen or wetting basket over filling port.
2. Through the screen, fill the sprayer tank one-half full with water and start agitation.
3. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
4. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
5. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
6. Continue filling the sprayer tank with water and add the required amount of this product near the end of the filling process.
7. Where nonionic surfactant is recommended, add this to the spray tank before completing the filling process.
8. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water soluble liquid followed by surfactant.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near bottom of tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh. Carefully select proper nozzle to avoid spraying a fine mist. For best results with conventional ground applications equipment, use flat fan nozzles.

Clean sprayer and parts immediately after using this product by thoroughly flushing with water.

ADDITIVES

SURFACTANTS

Nonionic surfactants which are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactant, use 0.5 percent surfactant concentration (2 quarts per 100 gallons of spray solution) when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration (4 quarts per 100 gallons of spray solution) for those surfactants containing less than 70 percent active ingredient. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

AMMONIUM SULFATE

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, and this product plus 2,4-D, Banvel™ or residual herbicide tank mixtures on annual and perennial weeds. The improvement in performance may be apparent where environmental stress is a concern. Low quality ammonium sulfate may contain material that will not readily dissolve which could result in nozzle tip plugging. To determine quality, perform a jar test by adding 1/3 cup of ammonium sulfate to 1 gallon of water and agitate for 1 minute. If undissolved sediment is observed, predissolve the ammonium sulfate in water and filter prior to addition to the spray tank. If ammonium sulfate is added directly to the spray tank, add slowly with agitation. Adding too quickly may clog outlet line. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides or surfactant. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

NOTE: The use of ammonium sulfate as an additive does not preclude the need for additional surfactant. Do not use herbicide rates lower than recommended in this label.

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COLORANTS OR DYES

Agriculturally approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

Aerial—Fixed Wing and Helicopter

Broadcast Spray

Controlled Droplet Applicator (CDA)—Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

Hand-Held and High-Volume Spray Equipment—Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, lances and other hand-held spray equipment used to direct the spray onto weed foliage and vehicle-mounted high-volume spray equipment for spray-to-wet applications.

Selective equipment—Recirculating sprayers, shielded sprayers and wiper applicators.

See the appropriate part of this section for specific rates of application and instructions.

AERIAL EQUIPMENT

Use the recommended rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. See the "Weeds Controlled" section of this label for specific rates. Unless otherwise specified, do not exceed one quart per acre. (Aerial applications of this product may be made in annual cropping conventional tillage systems,

fallow and reduced tillage systems, preharvest, silvicultural sites, and rights-of-way. Refer to the individual use area sections of this label for recommended volumes and application rates.) **FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.**

This product plus Oust tank mixtures may not be applied by air in California.

Avoid direct application to any body of water.

AVOID DRIFT—DO NOT APPLY DURING INVERSION CONDITIONS, WHEN WINDS ARE GUSTY, OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

Ensure uniform application—To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. **PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR ARE MOST SUSCEPTIBLE.** The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion.

BROADCAST EQUIPMENT

For control of annual or perennial weeds listed on this label using broadcast equipment—Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified on this label. See the "Weeds Controlled" section of this label for specific rates. As density of weeds increases, spray volume

should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzle to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

CONTROLLED DROPLET APPLICATION (CDA)

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 3 to 15 gallons of water per acre.

For the control of labeled annual weeds with hand-held CDA units, apply a 20 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 MPH (1 quart per acre). For the control of labeled perennial weeds, apply a 20 to 40 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 MPH (2 to 4 quarts per acre).

Controlled droplet application equipment produces a spray pattern which is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction may result.

HAND-HELD and HIGH-VOLUME EQUIPMENT

Use coarse sprays only.

Mix this product in clean water and apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff.

For control of annual weeds listed on this label, apply a 0.5 percent solution of this product plus nonionic surfactant to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. Allow three or more days before tillage or mowing.

For annual weeds over 6 inches tall, or when not using additional surfactant, or unless otherwise specified, use a 1 percent solution. For best results, use a 2 percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

Less than complete coverage of weeds may result from the use of spray equipment designed for motorized spot treatments. Where less than complete coverage of annual

weeds occurs, use a 5 percent solution. Do not reduce recommended concentrations of this product when adding surfactant.

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

Spray Solution

DESIRED VOLUME	AMOUNT OF ROUNDUP®				
	½%	1%	1½%	2%	5%
1 gallon	¾ oz	1½ oz	2 oz	2¾ oz	6½ oz
25 gallons	1 pt	1 qt	1½ qt	2 qt	5 qt
100 gallons	2 qt	1 gal	1½ gal	2 gal	5 gal

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the proper amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

For hand-held WIPER APPLICATORS, see the "Selective Equipment" section and for hand-held CONTROLLED DROPLET APPLICATORS, see the "Controlled Droplet Application (CDA)" section of this label.

SELECTIVE EQUIPMENT

This product may be applied through a recirculating spray system, a shielded applicator, or a wiper applicator after dilution and thorough mixing with water to listed weeds growing in any noncrop site specified on this label and only when specifically recommended in cropping systems.

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

A shielded applicator directs the herbicide solution onto weeds while shielding desirable vegetation from the herbicide.

A wiper applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution.

AVOID CONTACT WITH DESIRABLE VEGETATION.

Contact of the herbicide solution with the desirable vegetation may result in damage or destruction. Applicators used above desired vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least two inches above the desirable vegetation. Droplets, mist, foam, or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting, or destruction.

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

See the "Weeds Controlled" section of this label for recommended stage of growth for specific weeds.

NOTE

- Maintain equipment in good operating condition. Avoid leakage or dripping onto desirable vegetation.
- Adjust height of applicator to insure adequate contact with weeds.
- Keep nozzle tips and wiping surfaces clean.
- Keep spray patterns aligned into recovery chamber of the recirculating sprayer.
- Keep shields on shielded applicators adjusted to protect desirable vegetation.
- Maintain recommended roller RPM on roller applicators while in use.
- Keep wiper material at proper degree of saturation with herbicide solution.
- DO NOT use wiper equipment when weeds are wet.
- DO NOT operate equipment at ground speeds greater than 5 mph. Weed control may be affected by speed of application equipment. As weed density increases, reduce equipment ground speed to ensure good coverage of weeds.
- Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying on the upper end of a wiper applicator.
- Variation in equipment design may affect weed control. With wiper applicators, the wiping material and its orientation must allow delivery of sufficient quantities of the recommended herbicide solution directly to the weed.

- Care must be taken with all types of wipers to ensure that the absorbent material does not become oversaturated, causing the herbicide to drip on desirable vegetation.
- Mix only the amount of solution to be used during a one-day period, as reduced activity may result from use of leftover solutions. With all equipment, drain and clean sprayer and wiper parts immediately after using this product by thoroughly flushing with water.

RECIRCULATING SPRAYERS

Recirculating sprayer calibration is made on the basis of ground speed and delivery volume. Two procedures can be used to calibrate: (1) determine the discharge being delivered per minute, then operate at the designated ground speed, or (2) select the desired ground speed and then adjust the sprayer to deliver the recommended volume per minute (this may require nozzle changes). Use the appropriate table below.

Do not operate at nozzle pressure above 20 PSI.

Table 1. Use this table when calibrating box or row-type recirculating sprayers. Box or row-type sprayer calibration is based on the total discharge collected per row. Use only straight stream or 15° fan-type nozzles.

*VOLUME PER MINUTE PER ROW

<u>MPH</u>	<u>Fluid Ounces</u>
2	26 to 35
3	38 to 51
4	51 to 68
5	65 to 86

* NOTE: Be certain the amount collected is for all spray streams treating one row.

Table 2. Use this table when calibrating broadcast type recirculating sprayers. Broadcast recirculating sprayer calibration is based on the discharge collected per minute from one nozzle on a 20-inch spacing.

VOLUME PER MINUTE PER NOZZLE	
MPH	Fluid Ounces
2	7 to 9
3	10 to 13
4	13 to 18
5	16 to 22

When applied as recommended under the conditions described for recirculating sprayers, this product will control the following weeds growing a minimum of 6 inches above desirable vegetation.

Perennial Broadleaf Weeds—To SUPPRESS the following weeds, mix in a ratio of 4 quarts of this product in 20 gallons of water and apply as directed.

Dogbane, hemp <i>Apocynum cannabinum</i>	Milkweed <i>Asclepias syriaca</i>
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Perennial Grasses and Annual Broadleaf Weeds—To control the following weeds, mix in a ratio of 3 quarts of this product in 20 gallons of water and apply as directed:

Cocklebur <i>Xanthium strumarium</i>	Pigweed, redroot <i>Amaranthus retroflexus</i>
Johnsongrass <i>Sorghum halepense</i>	Sunflower <i>Helianthus annuus</i>

Annual Grasses—To control the following weeds, mix in a ratio of 2 quarts of this product in 20 gallons of water and apply as directed:

Corn <i>Zea mays</i>	Shattercane <i>Sorghum bicolor</i>
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SHIELDED APPLICATORS

When applied as directed under conditions described for shielded applicators, this product will control those weeds listed in the "Weeds Controlled" section of this label.

Shielded applicators which apply the herbicide solution as a spray band should be calibrated on a broadcast equivalent rate and volume basis. To determine these:

Band width in inches	X	Herbicide Broadcast RATE per acre	=	Herbicide Band RATE per acre
Row width in inches				
Band width in inches	X	Broadcast VOLUME of solution per acre	=	Band VOLUME of solution per acre
Row width in inches				

Use nozzles that provide uniform coverage within the treated area. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT WITH DESIRABLE VEGETATION.**

For specific rates of application and instructions for control of various annual and perennial weeds, see the "Weeds Controlled" section of this label.

WIPER APPLICATORS

Wiper applicators include either roller or wick devices which physically wipe appropriate concentrations or amounts of this product directly onto the weed. Equipment must be designed, maintained, and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if two applications are made in opposite directions.

Do not add surfactant to the herbicide solution.

For Roller Applicators—Mix 1 gallon of this product in enough water to prepare 10 gallons of herbicide solution (10 percent solution). Apply this solution to perennial weeds or annual broadleaf weeds listed in this "Wiper Applicators" section.

Mix 1 gallon of this product in enough water to provide 20 gallons of herbicide solution (5 percent solution). Apply this solution to annual grasses listed in this "Wiper Applicators" section.

Roller speed should be maintained at 40 to 60 RPM.

For Wick or Wiper Applicators—Mix 1 gallon of this product in 2 gallons of water to prepare a 33 percent solution. Apply this solution to weeds listed in this "Wiper Applicators" section.

In severe infestations, reduce equipment ground speed to ensure that adequate amounts of this product are wiped on the weeds. A second treatment in the opposite direction may be beneficial.

Do not permit herbicide solution to contact desirable vegetation.

When applied as recommended under the conditions described for "Wiper Applicators", this product CONTROLS the following weeds:

ANNUAL GRASSES

Corn

Zea mays

Panicum, Texas

Panicum texanum

Rye, common

Secale cereale

Shattercane

Sorghum bicolor

ANNUAL BROADLEAVES

Sicklepod

Cassia obtusifolia

Spanishneedles

Bidens bipinnata

Starbur, bristly

Acanthospermum hispidum

When applied as recommended under the conditions described for "Wiper Applicators", this product SUPPRESSES the following weeds:

ANNUAL BROADLEAVES

Beggarweed, Florida

Desmodium tortuosum

Dogfennel

Eupatorium capilliflorum

Pigweed, redroot

Amaranthus retroflexus

Ragweed, common

Ambrosia artemisiifolia

Ragweed, giant

Ambrosia trifida

Sunflower

Helianthus annuus

Thistle, musk

Carduus nutans

Velvetleaf

Abutilon theophrasti

PERENNIAL GRASSES

Bermudagrass

Cynodon dactylon

Guineagrass

Panicum maximum

Johnsongrass

Sorghum halepense

Smutgrass

Sporobolus poiretii

Vaseygrass

Paspalum urvillei

PERENNIAL BROADLEAVES

Dogbane, hemp

Apocynum cannabinum

Milkweed

Asclepias syriaca

Nightshade, silverleaf

Solanum elaeagnifolium

Thistle, Canada

Cirsium arvense

WEEDS CONTROLLED

This herbicide controls many annual and perennial grasses and broadleaf weeds.

ANNUAL WEEDS

- Apply to actively growing grass and broadleaf weeds.
- Allow at least 3 days after treatment before tillage.
- For maximum agronomic benefit, apply when weeds are 6 inches or less in height.
- To prevent seed production, applications should be made prior to seedhead formation.
- This product does not provide residual control; therefore, delay application until maximum weed emergence. Repeat treatments may be necessary to control later germinating weeds.

LOW-VOLUME BROADCAST APPLICATION (LOW-RATE TECHNOLOGY)

When applied as directed under the conditions described, this product will control the weeds listed below when:

1. Water carrier volumes of 3 to 10 gallons per acre for ground applications and 3 to 5 gallons per acre for aerial applications are recommended. (See the "Aerial Application" section of this label for approved sites.)
2. A nonionic surfactant is added at 0.5 to 1 percent by total spray volume. Use 0.5 percent surfactant concentration when using surfactants which contain at least 70 percent active ingredient or a 1 percent surfactant concentration for those surfactants containing less than 70 percent active ingredient.

NOTE

- The addition of 2 percent dry ammonium sulfate by weight or 17 pounds per 100 gallons of water may increase the performance of this product on annual weeds. The improvement in performance may be apparent where environmental stress is a concern. Refer to the "Mixing, Additives and Application Instructions" section of this label.
- Do not tank-mix with soil residual herbicides when using these rates unless otherwise specified.

- For weeds that have been mowed, grazed, or cut, allow regrowth to occur prior to treatment.
- Refer to the "Tank Mixtures" portion of this section for control of additional broadleaf weeds.

WEED SPECIES	MAXIMUM HEIGHT/ LENGTH	RATE PER ACRE** (FLUID OUNCES)
Foxtail <i>Setaria spp.</i>	12"	8 oz.
Barnyardgrass <i>Echinochloa crus-galli</i>	6" (0 to 4" 4 to 6"	12 oz. 16 oz. ¹⁾ 24 oz. ¹⁾
Bluegrass, annual <i>Poa annua</i>		
Brome, downy* <i>Bromus tectorum</i>		
Mustard, blue <i>Chorispora tenella</i>		
Mustard, tansy <i>Descurainia pinnata</i>		
Mustard, tumble <i>Sisymbrium altissimum</i>		
Mustard, wild <i>Sinapis arvensis</i>		
Spurry, umbrella <i>Holosteum umbellatum</i>		

Barley <i>Hordeum vulgare</i>	12"	
Rye <i>Secale cereale</i>		
Sandbur, field <i>Cenchrus spp.</i>		
Shattercane <i>Sorghum bicolor</i>		
Stinkgrass <i>Eragrostis cilianensis</i>		
Wheat <i>Triticum aestivum</i>	18"	
Morningglory <i>Ipomoea spp.</i>	2"	16 oz.
Sicklepod <i>Cassia obtusifolia</i>		
Bluegrass, bulbous <i>Poa bulbosa</i>	6"	
Cheat <i>Bromus secalinus</i>		
Chickweed, common <i>Stellaria media</i>		
Chickweed, mouseear <i>Cerastium vulgatum</i>		
Corn <i>Zea mays</i>		
Goatgrass, jointed <i>Aegilops cylindrica</i>		
Groundsel, common <i>Senecio vulgaris</i>		

WEED SPECIES	MAXIMUM HEIGHT/ LENGTH	RATE PER ACRE** (FLUID OUNCES)
Horseweed/Marestail <i>Conyza canadensis</i>	6"	16 oz.
Lambsquarters, common <i>Chenopodium album</i>		
Pennycress, field Fanweed <i>Thlaspi arvense</i>		
Rocket, London <i>Sisymbrium irio</i>		
Ryegrass, Italian <i>Lolium multiflorum</i>		
Shepherdspurse <i>Capsella bursa-pastoris</i>		
Spurge, annual <i>Euphorbia spp.</i>		
Buttercup <i>Ranunculus spp.</i>	12"	
Cocklebur <i>Xanthium strumarium</i>		
Crabgrass <i>Digitaria spp.</i>		
Dwarf dandelion <i>Krigia cespitosa</i>		
False flax, smallseed <i>Camelina microcarpa</i>		

Foxtail, Carolina <i>Alopecurus carolinianus</i>		
Johnsongrass, seedling <i>Sorghum halepense</i>		
Oats, wild <i>Avena fatua</i>		
Panicum, fall <i>Panicum dichotomiflorum</i>		
Panicum, Texas <i>Panicum texanum</i>		
Pigweed, redroot <i>Amaranthus retroflexus</i>		
Pigweed, smooth <i>Amaranthus hybridus</i>		
Witchgrass <i>Panicum capillare</i>		
Sicklepod <i>Cassia obtusifolia</i>	3 to 4"	24 oz.
Signalgrass, broadleaf <i>Brachiaria platyphylla</i>	4"	
Horseweed/Marestail <i>Conyza canadensis</i>	7 to 12"	
Lambsquarters, common <i>Chenopodium album</i>		
Spurge, annual <i>Euphorbia spp.</i>		
Rice, red <i>Oryza sativa</i>	4"	32 oz.
Teaweed <i>Sida spinosa</i>		

WEED SPECIES	MAXIMUM HEIGHT/ LENGTH	RATE PER ACRE** (FLUID OUNCES)
Sprangletop <i>Leptochloa</i> spp.	6"	32 oz.
Geranium, Carolina <i>Geranium carolinianum</i>	12"	
Goosegrass <i>Eleusine indica</i>		
Primrose, cutleaf evening <i>Oenothera laciniata</i>		
Pusley, Florida <i>Richardia scabra</i>		
Sicklepod <i>Cassia obtusifolia</i>	5 to 12"	
Spanishneedles <i>Bidens bipinnata</i>		
Filaree <i>Erodium</i> spp.	12"	48 oz.
Sprangletop <i>Leptochloa</i> spp.		

¹ Use these rates to control barnyardgrass in Alabama, Arkansas, Mississippi, Missouri, Louisiana and Texas for preplant treatments.

* For control in no-till systems, use 16 fluid ounces per acre.

**For those rates less than 32 fluid ounces per acre, this product at rates up to 32 fluid ounces per acre may be used where heavy weed densities exist.

TANK MIXTURES

ROUNDUP® plus BANVEL plus NONIONIC SURFACTANT

ROUNDUP® plus 2,4-D plus NONIONIC SURFACTANT

DO NOT APPLY BANVEL OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA.

These tank mixtures are recommended for use in fallow and reduced tillage areas only. Follow use directions as given in the "Low-Volume Broadcast Application" section.

This product plus Banvel or 2,4-D will control the annual grasses and broadleaf weeds previously listed for this product alone at the indicated heights (except 8 fluid ounces per acre applications), plus the following broadleaf weeds. For those weeds previously listed at 8 fluid ounces of this product alone per acre, use 12 fluid ounces in these tank mixtures.

NOTE: Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if Banvel is applied within 45 days of planting. The addition of Banvel in a mixture with this product may provide short-term residual control of selected weed species.

Apply 12 to 16 fluid ounces of this product plus 0.25 lb. a.i. of Banvel or 0.5 pound a.i. of 2,4-D, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre to control dense populations of the following annual broadleaf weeds when less than the height indicated:

Cocklebur (12")

Xanthium strumarium

Kochia* (6")

Kochia scoparia

Lambsquarters (12")

Chenopodium album

Lettuce, prickly (6")

Lactuca serriola

Marestail/Horseweed (6")

Conyza canadensis

Morningglory (6")

Ipomoea spp.

Pigweed, redroot (12")

Amaranthus retroflexus

Pigweed, smooth (12")

Amaranthus hybridus

Thistle, Russian (12")

Salsola kali

*Controlled with Banvel tank mixture only.

Apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre to control the following annual broadleaf weeds when less than 6 inches in height.

Ragweed, common

Ambrosia artemisiifolia

Smartweed, Pennsylvania

Polygonum pensylvanicum

Ragweed, giant

Ambrosia trifida

Velvetleaf

Abutilon theophrasti

HIGH-VOLUME BROADCAST APPLICATIONS

When applied as directed under the conditions described, this product will control the weeds listed below when water carrier volumes are 10 to 40 gallons per acre for ground applications.

Apply 1 to 1.5 quarts of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume. Use 1 quart per acre if weeds are less than 6 inches tall and 1.5 quarts per acre if weeds are over 6 inches tall. If weeds have been mowed, grazed, or cut, allow adequate time for new growth to recommended stages prior to treatment. These rates will also provide control of weeds listed in the "Low-Volume Broadcast Application" section.

WEED SPECIES

Balsamapple*

Momordica charantia

Lettuce, prickly

Lactuca serriola

Bassia, fivehook

Bassia hyssopifolia

Panicum

Panicum spp.

Brome

Bromus spp.

Ragweed, common

Ambrosia artemisiifolia

Fiddleneck

Amsinckia spp.

Ragweed, giant

Ambrosia trifida

Flaxleaf Fleabane

Conyza bonariensis

Smartweed, Pennsylvania

Polygonum pensylvanicum

Fleabane

Erigeron spp.

Sowthistle, annual

Sonchus oleraceus

Kochia*Kochia scoparia***Thistle, Russian***Salsola kali***Sunflower***Helianthus annuus***Velvetleaf***Abutilon theophrasti*

*Apply with hand-held equipment only.

PERENNIAL WEEDS

Apply this product as follows to control or destroy most perennial weeds:

NOTE: If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended stages.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product on perennial weeds. The improvement in performance may be apparent where environmental stress is a concern. Refer to the "Mixing, Additives and Application Instructions" section of this label.

When applied as recommended under the conditions described, this product WILL CONTROL the following PERENNIAL WEEDS:

Alfalfa*Medicago sativa***Alligatorweed****Alternanthera philoxeroides***Artichoke, Jerusalem***Helianthus tuberosus***Bahiagrass***Paspalum notatum***Bentgrass***Agrostis spp.***Fescues***Festuca spp.***Fescue, tall***Festuca arundinacea***Guineagrass***Panicum maximum***Horsenettle***Solanum carolinense***Horseradish***Armoracia rusticana*

PERENNIAL WEEDS (continued)

- | | |
|---|--|
| Bermudagrass
<i>Cynodon dactylon</i> | Johnsongrass
<i>Sorghum halepense</i> |
| Bermudagrass, water (knotgrass)
<i>Paspalum distichum</i> | Kikuyugrass
<i>Pennisetum clandestinum</i> |
| Bindweed, field
<i>Convolvulus arvensis</i> | Knapweed
<i>Centaurea repens</i> |
| Bluegrass, Kentucky
<i>Poa spp.</i> | Lantana
<i>Lantana camara</i> |
| Blueweed, Texas
<i>Helianthus ciliaris</i> | Milkweed
<i>Asclepias spp.</i> |
| Brackenfern
<i>Pteridium aquilinum</i> | Muhly, wirestem
<i>Muhlenbergia frondosa</i> |
| Bromegrass, smooth
<i>Bromus inermis</i> | Mullein, common
<i>Verbascum thapsus</i> |
| Bursage, woollyleaf
<i>Franseria tomentosa</i> | Napiergrass
<i>Pennisetum purpureum</i> |
| Canarygrass, reed
<i>Phalaris arundinacea</i> | Nightshade, silverleaf
<i>Solanum elaeagnifolium</i> |
| Cattail
<i>Typha spp.</i> | Nutsedge, purple, yellow
<i>Cyperus rotundus Cyperus esculentus</i> |
| Clover, red
<i>Trifolium pratense</i> | Orchardgrass
<i>Dactylis glomerata</i> |
| Clover, white
<i>Trifolium repens</i> | Pampas
<i>Cortaderia jubata</i> |
| Cogongrass
<i>Imperata cylindrica</i> | Paragrass
<i>Brachiaria mutica</i> |
| Dallisgrass
<i>Paspalum dilatatum</i> | Phragmites*
<i>Phragmites spp.</i> |

Dandelion*araxacum officinale***Dock, curly***Rumex crispus***Dogbane, hemp***Apocynum cannabinum***Ryegrass, perennial***Lolium perenne***Smartweed, swamp***Polygonum coccineum***Spurge, leafy****Euphorbia esula***Sweet potato, wild****Ipomoea pandurata***Thistle, Canada***Cirsium arvense***Quackgrass***Agropyron repens***Redvine****Brunnichia ovata***Reed, giant***Arundo donax***Timothy***Phleum pratense***Torpedograss****Panicum repens***Trumpet creeper****Campsis radicans***Vaseygrass***Paspalum urvillei***Wheatgrass, western***Agropyron smithii****Partial Control**

This product is not registered in California for use on water bermudagrass.

See "Directions for Use" and "Mixing, Additives and Application Instructions" sections of this label for labeled uses and specific application instructions.

Alfalfa—Apply 1 quart of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Make application after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.

Alligatorweed—Apply 4 quarts of this product per acre or apply a 1½ percent solution with hand-held equipment to provide partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain such control.

Bentgrass—For suppression in grass seed production areas. For ground applications only, apply 1.5 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total

spray volume in 10 to 20 gallons of water per acre. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should be actively growing and have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results. Failure to use tillage after treatment may result in unacceptable control.

Bermudagrass—For control, apply 5 quarts of this product per acre and, for partial control, apply 3 quarts per acre. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control. Allow 7 or more days after application before tillage.

Bermudagrass, water (knotgrass)—Apply 1.5 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 5 to 10 gallons of water per acre. Apply when water bermudagrass is actively growing and 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.

Fall applications only—Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water bermudagrass that is actively growing and 12 to 18 inches in length. Allow 7 or more days before tillage.

Bindweed, field—For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts east of the Mississippi River. Apply when the weeds are actively growing and are at or beyond full bloom. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage.

Also for control, apply 2 quarts of this product plus 0.5 pound a.i. of Banvel in 10 to 20 gallons of water per acre. At these rates, apply using ground application only.

The following tank mixtures with 2,4-D may be applied using aerial application equipment (except in California) in fallow and reduced tillage systems only.

For suppression on irrigated agricultural land apply 1 to 2 quarts of this product plus 1 pound a.i. of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or on fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

In California only, apply 1 to 5 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. Also, for more specific use recommendations for California refer to the following paragraph:

For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to actively growing bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. Allow 3 or more days after application before tillage.

Bluegrass, Kentucky / Bromegrass, smooth / Orchardgrass—Apply 2 quarts of this product in 10 to 40 gallons of water per acre when the grasses are actively growing and most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1½ quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height. Allow 7 or more days after application before tillage.

Orchardgrass (sods going to no-till corn)—Apply 1 to 1.5 quarts of this product per acre plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least three days following application before planting. A sequential application of 3.75 to 4.5 quarts of Lariat® herbicide, or equivalent, will be necessary for optimum results. Lariat should be applied within 3 to 10 days following spring applications to prevent annual weed growth.

Lariat is not registered for use in California.

®Lariat is a registered trademark of Monsanto Company.

Blueweed, Texas—Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River. Apply when weed is actively

growing and is at or beyond full bloom. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage.

Brackenfern—Apply 3 to 4 quarts of this product per acre as a broadcast spray or as a 1 to 1½ percent solution with hand-held equipment. Apply to fully expanded fronds which are at least 18 inches long.

Bursage, woollyleaf—For control, apply 2 quarts of this product plus 1 pint of Banvel per acre. For partial control, apply 1 quart of this product plus 1 pint of Banvel per acre. Add 0.5 to 1 percent nonionic surfactant by total spray volume and apply 3 to 20 gallons of water per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.

Canarygrass, reed/Timothy/Wheatgrass, western — Apply 2 to 3 quarts of this product per acre. For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth. Allow 7 or more days after application before tillage.

Cogongrass—Apply 3 to 5 quarts of this product plus 0.5 to 1 percent nonionic surfactant in 10 to 40 gallons of water per acre. Apply when Cogongrass is at least 18 inches tall and actively growing in late summer or fall. Allow 7 or more days after application before tillage or mowing. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

Dandelion/Dock, curly—Apply 3 to 5 quarts of this product per acre when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre.

Dogbane, hemp—Apply 4 quarts of this product per acre. Apply when actively growing and when most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D plus

0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Delay applications until maximum emergence of dogbane has occurred.

Fescue, tall—Apply 3 quarts of this product in 10 to 40 gallons of water per acre to actively growing plants when most have reached boot-to-early seedhead stage of development.

Fall applications only—Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Apply to fescue in the fall when actively growing and plants have 6 to 12 inches of new growth. Allow 7 or more days after application before tillage. A sequential application of 1 pint per acre of this product plus nonionic surfactant will improve long-term control and control seedlings germinating after fall treatments or the following spring.

Guineagrass—Apply 3 quarts of this product per acre or use a 1 percent solution with hand-held equipment. Apply to actively growing guineagrass when most has reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. Allow 7 or more days after application before tillage.

Johnsongrass/Ryegrass, perennial—Apply 1 to 3 quarts of this product per acre. In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre.

Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In noncrop or areas where annual tillage (no-till) is not performed, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre. For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth or in the fall prior to frost. Allow 7 or more days after application before tillage. Do not tank-mix with residual herbicides when using the 1 quart per acre rate.

For burndown of Johnsongrass, apply 1 pint per acre plus 0.5 to 1 percent nonionic surfactant in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage.

Spot Treatment (partial control or suppression)—Apply a 1 percent solution of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume when johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete.

Kikuyugrass—Apply 2 to 3 quarts of this product per acre. Spray when most kikuyu-grass is at least 8 inches in height (3 or 4-leaf stage of growth) and actively growing. Allow 3 or more days after application before tillage.

Knapweed/Horseradish—Apply 4 quarts of this product per acre. Apply when actively growing and when most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage.

Lantana—Apply this product as a 1 to 1 1/4 percent solution using hand-held equipment only. Apply to actively growing lantana at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth. Allow 7 or more days after application before tillage.

Milkweed, common—Apply 3 quarts of this product per acre. Apply when actively growing and most of the milkweed has reached the late bud to flower stage of growth. Following small grain harvest or mowing, allow milkweed to regrow to a mature stage prior to treatment. Allow 7 or more days after application before tillage.

Muhly, wirestem—Apply 1 to 2 quarts of this product per acre. Use 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or noncrop areas. Spray when the wirestem muhly is 8 inches or more in height and actively growing. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage. This product will not provide residual control of wirestem muhly from seeds which germinate after application of this product. Do not tank mix with residual herbicides when using the 1 quart per acre rate.

Nightshade, silverleaf—For control, apply 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth.

Nutsedge: purple, yellow—Apply 3 quarts of this product per acre as a broadcast spray, or apply a 2 percent solution from hand-held equipment to control existing

nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

Sequential applications of 1 to 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre will provide control. Make applications when a majority of the plants are in the 3 to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3 to 5-leaf stage. Subsequent applications will be necessary for long-term control.

For suppression to partial control of existing plants, apply 1 pint to 2 quarts of this product per acre, plus 0.5 to 1 percent nonionic surfactant in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants. Wait 7 days after treatment before tillage or mowing.

Pampas—Apply this product as a 1½ to 2 percent solution using hand-held equipment. Apply to plants that are actively growing at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

Phragmites—For partial control of phragmites in Florida and the counties of other states bordering the Gulf of Mexico, apply 5 quarts per acre as a broadcast spray or apply a 2 percent solution from hand-held equipment. In other areas of the U.S., apply 3 quarts per acre as a broadcast spray or apply a 1 percent solution from hand-held equipment for partial control. For best results, treat during late summer or fall months or when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.

Quackgrass—In Annual Cropping Systems, or in Pastures and Sods Followed by Deep Tillage: Apply 1 to 2 quarts of this product per acre. For the one quart rate, apply 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. For the 2 quart rate, apply in 10 to 40 gallons of water per acre. Do not tank mix with residual herbicides when using the 1 quart rate. Spray when quackgrass is 6 to 8 inches in height and actively growing. Do not till between harvest and fall applications or

in fall or spring prior to spring application. Allow 3 or more days after application before tillage. In pastures or sods, for best results use a moldboard plow.

Quackgrass—Pasture or Sod or Other Noncrop Areas Where Deep Tillage is Not Planned Following Application: Apply 2 to 3 quarts in 10 to 40 gallons of water per acre. Spray when the quackgrass is greater than 8 inches tall and actively growing. Do not till between harvest and fall application or in fall or spring prior to spring application. Allow 3 or more days after application before tillage.

Redvine—For suppression, apply 24 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 2 quarts per acre. Apply recommended rates in 5 to 10 gallons of water per acre plus 0.5 to 1 percent nonionic surfactant by total volume. Apply to actively growing plants in late September or early October, which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least one week before a killing frost.

Reed, giant—For control of giant reed, apply a 2 percent solution of this product when plants are actively growing. Best results are obtained when applications are made in late summer to fall.

Smartweed, swamp—Apply 3 to 5 quarts of this product per acre when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

Also for control, apply 16 fluid ounces of this product plus 0.5 pound active ingredient of 2,4-D plus 0.5 to 1 percent nonionic surfactant by total volume in 3 to 10 gallons of water per acre in the late summer or fall. Apply when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage.

Spurge, leafy—For suppression, apply 16 fluid ounces of this product plus 0.5 pound active ingredient 2,4-D plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre in the late summer or fall. Apply when plants are actively growing. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall. Allow 7 or more days after application before tillage.

Sweet Potato, wild—Apply this product as a 2 percent solution using hand-held equipment. Apply to actively growing weeds that are at or beyond the bloom stage of growth. Repeat applications will be required. Allow the plant to reach the recommended stage of growth before retreatment. Allow 7 or more days before tillage.

Thistle, Canada—Apply 2 to 3 quarts of this product per acre. Apply to actively growing thistles when most are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 3 or more days after application before tillage.

For suppression of Canada thistle, apply 1 quart per acre of this product, or 1 pint of this product plus 0.5 pound a.i. 2,4-D per acre, plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre in the late summer or fall after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

Torpedograss—Apply 4 to 5 quarts of this product per acre to provide partial control of torpedograss. Apply to actively growing torpedograss when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost. Allow 7 or more days after application before tillage.

Trumpet creeper—For control, apply 2 quarts of this product per acre in 5 to 10 gallons of water per acre. Apply to actively growing plants in late September or October, which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost.

Other perennials listed on this label—Apply 3 to 5 quarts of this product per acre. Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage.

WOODY BRUSH AND TREES

When applied as recommended under the conditions described, this product CONTROLS or PARTIALLY CONTROLS the following woody brush, plants and trees:

Alder

Alnus spp.

Ash*

Fraxinus spp.

Aspen, quaking

Populus tremuloides

Bearmat (Bearclover)

Chamaebatia foliolosa

Birch

Betula spp.

Blackberry

Rubus spp.

Broom:

French

Cytisus monspessulanus

Scotch

Cytisus scoparius

Buckwheat, California*

Eriogonum fasciculatum

Cascara*

Rhamnus purshiana

Catsclaw*

Acacia greggi

Ceanothus*

Ceanothus spp.

Chamise

Adenostoma fasciculatum

Locust, black*

Robinia pseudoacacia

Madrone

Arbutus menziesii

Manzanita

Arctostaphylos spp.

Maple:

Red**

Acer rubrum

Sugar

Acer saccharum

Vine*

Acer circinatum

Monkey Flower*

Mimulus guttatus

Oak:

Black*

Quercus velutina

Northern Pin

Quercus palustris

Post

Quercus stellata

Red

Quercus rubra

Southern Red

Quercus falcata

Cherry:

Bitter

Prunus emarginata

Black

Prunus serotina

Pin

Prunus pensylvanica

Coyote brush

Baccharis consanguinea

Creeper, Virginia*

Parthenocissus quinquefolia

Dewberry

Rubus trivialis

Elderberry

Sambucus spp.

Elm*

Ulmus spp.

Eucalyptus, Bluegum

Eucalyptus glotulus

Hasardia*

Haplopappus squamosus

Hawthorn

Crataegus spp.

Hazel

Corylus spp.

Honeysuckle

Lonicera spp.

Kudzu

Pueraria lobata

White*

Quercus alba

Persimmon*

Diospyros spp.

Poison Ivy

Rhus radicans

Poison Oak

Rhus toxicodendron

Poplar*, yellow

Liriodendron tulipifera

Raspberry

Rubus spp.

Rose, multiflora

Rosa multiflora

Russian-olive***

Elaeagnus angustifolia

Sage, black

Salvia mellifera

Sagebrush, California

Artemisia californica

Salmonberry

Rubus spectabilis

Sassafras

Sassafras albidum

Sourwood

Oxydendrum arboreum

Sumac:

Poison*

Rhus vernix

WOODY BRUSH AND TREES (continued)

Smooth*

Rhus glabra

Winged*

Rhus copallina

Sweetgum

Liquidambar styraciflua

Swordfern*

Polystichum munitum

Tallowtree, Chinese

Sapium sebiferum

Tan Oak

Lithocarpus densiflorus

Thimbleberry

Rubus parviflorus

Tobacco, tree*

Nicotiana glauca

Trumpet creeper

Campsis radicans

Willow

Salix spp.

*Partial control

**See below for control or partial control instructions.

***This product is not registered in California for use on Russian-olive.

NOTE: If brush has been mowed or tilled or trees have been cut, do not treat until regrowth has reached the recommended stages of growth.

Apply this product when plants are actively growing and, unless otherwise directed, after full leaf expansion. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when application is made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

See "Directions for Use", and "Mixing, Additives, and Application Instructions" sections of this label for labeled uses and specific application instructions.

Apply this product as follows to control or partially control the following woody brush and trees.

Alder / Dewberry / Honeysuckle / Post Oak / Raspberry—For control, apply 3 to 4 quarts per acre of this product as a broadcast spray or as a 1 to 1½ percent solution with hand-held equipment.

Aspen, quaking / Cherry: bitter, black, pin / Hawthorn / Oak, southern red / Sweetgum / Trumpet creeper—For control, apply 2 to 3 quarts of this product per acre as a broadcast spray or as a 1 to 1½ percent solution with hand-held equipment.

Birch / Elderberry / Hazel / Salmonberry / Thimbleberry—For control, apply 2 quarts per acre of this product as a broadcast spray or as a 1 percent solution with hand-held equipment.

Blackberry—For control, apply 3 to 4 quarts per acre of this product as a broadcast spray, or 1 to 1½ percent solution with hand-held equipment. Make application after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. After berries have set or dropped in late fall, blackberry can be controlled by applying a ¾ percent solution of this product plus 0.5 to 1 percent non-ionic surfactant by total spray volume with hand-held equipment. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre.

Broom: French, Scotch—For control, apply a 1½ to 2 percent solution with hand-held equipment.

Buckwheat, California / Hasardia / Monkey Flower / Tobacco, tree—For partial control of these species, apply a 1 to 2 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

Catsclaw—For partial control, apply as a 1 to 1½ percent solution with hand-held equipment.

Coyote Brush—For control, apply a 1½ to 2 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

Eucalyptus / Bluegum—For control of eucalyptus resprouts, apply a 2 percent solution of this product with hand-held equipment when resprouts are 6 to 12 feet tall. Ensure complete coverage. Apply when plants are growing actively. Avoid application to drought-stressed plants.

Kudzu—For control, apply 4 quarts of this product per acre as a broadcast spray or as a 2 percent solution with hand-held equipment. Repeat applications will be required to maintain control.

Madrone resprouts—For suppression or partial control, apply a 2 percent solution of this product to resprouts less than 3 to 6 feet tall. Best results are obtained with spring/early summer treatments.

Maple, red**—For control, apply as a 1 to 1½ percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre as a broadcast spray.

Maple, sugar / Oak, northern pin / Oak red—For control, apply as a 1 to 1½ percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

Poison Ivy / Poison Oak—For control, apply 4 to 5 quarts of this product per acre as a broadcast spray or as a 2 percent solution with hand-held equipment. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.

Rose, multiflora—For control, apply 2 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment. Treatments should be made prior to leaf deterioration by leaf-feeding insects.

Sage, black / Sagebrush, California / Chamise / Tallowtree, Chinese—For control of these species, apply a 1 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

Tan oak resprouts—For suppression or partial control, apply a 2 percent solution of this product to resprouts less than 3 to 6 feet tall. Best results are obtained with fall applications.

Willow—For control, apply 3 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment.

Other Woody Brush and Trees listed on this label—For partial control, apply 2 to 4 quarts of this product per acre as a broadcast spray or as a 1 to 2 percent solution with hand-held equipment.

NONCROP USES

See "General Information" and "Mixing, Additives and Application Instructions" sections of this label for essential product performance information and the following "Noncrop" sections for specific recommended uses.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE OF DESIRABLE TURFGRASSES, TREES, SHRUBS, OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

NOTE: If spraying areas adjacent to desirable plants, use a shield made of cardboard, sheet metal or plyboard while spraying to help prevent spray from contacting foliage of desirable plants.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds.

Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

This product does not provide residual weed control. For subsequent weed control, follow a label-approved herbicide program.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

INDUSTRIAL, RECREATIONAL AND PUBLIC AREAS

When applied as directed for "Noncrop Uses", under conditions described, this product controls annual and perennial weeds listed on this label growing in areas such as airports, ditch banks, dry ditches, dry canals, fencerows, golf courses, highways, industrial plant sites, lumber yards, parking areas, parks, petroleum tank farms and pumping installations, pipelines, railroads, roadsides, schools, storage areas, other public areas and similar industrial or noncrop areas.

For specific rates of application and instructions for control of various annual and perennial weeds and woody brush and trees, see the "Weeds Controlled" section of this label.

This product may be applied with recirculating sprayers, shielded applicators, or wiper applicators in any noncrop site specified on this label. See the "Selective Equipment" part of "Application Equipment and Techniques" section of this label for information on proper use and calibration of this equipment.

TANK MIXTURES FOR INDUSTRIAL SITES

ROUNDUP® plus OUST™

Use on industrial sites including airports, industrial plants, lumberyards, petroleum tank farms, pumping stations, pipelines, railroads, roadsides, storage areas or other similar sites where bare ground is desired.

When applied as directed for "Noncrop Uses" under the conditions described, this product plus Oust provides control of annual weeds listed in the "Weeds Controlled" section of the label for this product and Oust, and control or partial control of the perennial weeds listed below.

Apply 1 to 2 quarts of this product with 2 to 4 ounces of Oust in 10 to 40 gallons of spray solution per acre as a broadcast spray to actively growing weeds.

This product plus Oust tank mixtures may not be applied by air in California.

For control of annual weeds, use the lower rates of these products.

For control of the listed perennial weeds, use the higher rates of both products. For partial control, use the lower rates.

Bahiagrass

Paspalum notatum

Bermudagrass*

Cynodon dactylon

Broomsedge

Andropogon virginicus

Dock, curly

Rumex crispus

Johnsongrass**

Sorghum halepense

Poorjoe**

Diodia teres

Quackgrass

Agropyron repens

Trumpet creeper*

Campsis radicans

Dogfennel

Eupatorium capilliflorum

Fescue, tall

Festuca arundinacea

Vaseygrass

Paspalum urvillei

Vervain, blue

Verbena hastata

*Suppression at the higher rates only.

**Control at the lower rates.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

™Oust is a trademark of E. I. du Pont de Nemours and Company.

TANK MIXTURES NONCROP SITES

When applied as a tank mixture, this product provides control of the emerged annual weeds and partial control of the emerged perennial weeds listed in this label. When applied as a tank mixture, the following residual herbicides will provide preemergence control of the weeds listed in the individual product labels.

ROUNDUP® plus DIURON

ROUNDUP plus KROVAR™ I

ROUNDUP plus KROVAR II

ROUNDUP plus RONSTAR™ 50WP

ROUNDUP plus SIMAZINE, PRINCEPT™ CALIBERT™ 90

ROUNDUP plus SIMAZINE 4L

ROUNDUP plus SIMAZINE 80W

ROUNDUP plus SURFLAN™ 75W

ROUNDUP plus SURFLAN AS

When tank mixing with residual herbicides, add an agriculturally approved nonionic surfactant at 0.5 to 1 percent by volume of spray solution. See the "Mixing, Additives and Application Instructions" section of this label before preparing these tank mixtures.

Read and carefully observe the label claims, cautionary statements, recommended use rates and all other information on the labels of all products used in these tank mixtures. Use according to the most restrictive label directions for each product in the mixture.

CONTROL OF EMERGED WEEDS

Annual Weeds—Apply 1 quart per acre of this product in these tank mixtures when weeds are less than 6 inches tall and 1½ quarts per acre when weeds are more than 6 inches tall.

Perennial Weeds—For partial control of perennial weeds using these tank mixtures, apply 2 to 5 quarts per acre of this product. Follow the recommendations in the "Weeds Controlled" section of this label for stage of growth and rate of application for specific perennial weeds.

PREEMERGENCE WEED CONTROL

For preemergence weed control, refer to the individual product labels for specific noncrop sites, rates, carrier volumes and precautionary statements.

Mix only the quantity of spray solution which can be used during the same day. Do not allow these tank mixtures to stand overnight as this may result in reduced weed control.

APPLY THESE TANK MIXTURES THROUGH CONVENTIONAL BROADCAST EQUIPMENT ONLY.

TMPrincep and Caliber are trademarks of Ciba-Geigy Corporation.

TMKrovar is a trademark of E.I. du Pont de Nemours and Company.

TMRonstar is a trademark of Rhone-Poulenc, Inc.

TMSurflan is a trademark of Elanco Products Company.

FARMSTEAD WEED CONTROL

When applied as directed for "Noncrop Uses", under conditions described, this product controls undesirable vegetation listed on this label around farmstead building foundations, along and in fences, shelterbelts, and for general nonselective farmstead weed control.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "Weeds Controlled" section of this label.

ORNAMENTALS AND CHRISTMAS TREES

THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES.

When applied as instructed for the conditions described for "Noncrop Uses", this product controls undesirable vegetation listed on this label prior to planting ornamentals, within and around greenhouses and shadehouses, and as a postdirected spray around established ornamentals.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "Weeds Controlled" section of this label.

When repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

Site Preparation—Following preplant applications of this product, any ornamental species may be planted. Precautions should be taken to protect nontarget plants during site preparation applications.

Greenhouse/Shadehouse Use—This product may be used to control weeds listed on this label which are growing in greenhouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

Postdirected Spray—Use as a postdirected spray around established woody ornamental species such as those listed below. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

Arborvitae*Thuja spp.***Azalea***Rhododendron spp.***Boxwood***Buxus spp.***Crabapple***Malus spp.***Euonymus***Euonymus spp.***Fir***Abies spp.**Pseudotsuga spp.***Jojoba***Simmondsia chinensis***Hollies***Ilex spp.***Lilac***Syringa spp.***Magnolia***Magnolia spp.***Maple***Acer spp.***Oak***Quercus spp.***Privet***Ligustrum spp.***Pine***Pinus spp.***Spruce***Picea spp.***Yew***Taxus spp.***CUT STUMP TREATMENTS**

Woody vegetation may be controlled by treating freshly cut stumps of trees and resprouts with this product. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut vegetation close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

When used according to directions for cut stump application, this product will CONTROL, PARTIALLY CONTROL or SUPPRESS many types of woody brush and tree species, some of which are listed below:

Alder*Alnus spp.***Eucalyptus/Bluegum***Eucalyptus glotulus***Madrone***Arbutus menziesii***Oak***Quercus spp.***Reed, giant***Arundo donax***Saltcedar***Tamarisk spp.***Sweetgum***Liquidambar styraciflua***Tan Oak***Lithocarpus densiflorus*

INJECTION AND FRILL APPLICATIONS

Woody vegetation may be controlled by injection or frill application of this product. Apply this product using suitable equipment which must penetrate into the living tissue. Apply the equivalent of 1 ml of this product per each 2 to 3 inches of trunk diameter (DBH). This is best achieved by applying 50 to 100 percent concentration of this material either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frill or cut areas in species that exude sap freely after frills or cutting. In species such as this, make frill or cut at an oblique angle so as to produce a cupping effect and use undiluted material. For best results, application should be made during periods of active growth and after full leaf expansion.

This treatment WILL CONTROL the following woody species:

Oak*Quercus spp.***Poplar***Populus spp.***Sweetgum***Liquidambar styraciflua***Sycamore***Platanus occidentalis*

This treatment WILL SUPPRESS the following woody species:

Black gum*Nyssa sylvatica***Dogwood***Cornus spp.***Hickory***Carya spp.***Maple, red***Acer rubrum*

TURFGRASSES AND GRASSES FOR SEED PRODUCTION

PREPLANT AND RENOVATION

When applied as directed for "Noncrop Uses", under conditions described, this product controls most existing vegetation prior to the planting or renovation of either turfgrasses or grass seed production areas.

For specific rates of application and instructions for control of various annual and perennial weeds, and woody brush and trees, see the "Weeds Controlled" section of this label.

For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control.

DO NOT DISTURB SOIL OR UNDERGROUND PLANT PARTS BEFORE TREATMENT. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.

TURFGRASSES

Where existing vegetation is growing in a field or unmowed situation, apply this product to actively growing weeds at the stages of growth given in the "Weeds Controlled" section of this label.

Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Desirable turfgrasses may be planted following the above procedures.

GRASSES FOR SEED PRODUCTION

Apply this product to actively growing weeds at the stages of growth given in the "Weeds Controlled" section of this label prior to planting or renovation of turf or forage grass areas grown for seed production.

DO NOT feed or graze treated areas within 8 weeks after application.

ANNUAL WEED CONTROL IN DORMANT BERMUDAGRASS AND BAHAGRASS TURF

When applied as directed for "Noncrop Uses" under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahagrass turf. Refer to the rate table for Roundup alone under the "Release of Bermudagrass and Bahagrass" section of this label for recommended rates and volumes on the species to be suppressed or controlled. Treat only when turf is dormant and prior to spring greenup. Spot treatments or broadcast applications of this product in excess of 16 fluid ounces per acre may result in injury or delayed greenup in highly maintained turfgrass areas; i.e., golf courses, lawns, etc. **DO NOT APPLY TANK MIXTURES** of this product plus Oust in highly maintained turfgrass areas.

RELEASE OF BERMUDAGRASS OR BAHAGRASS

NOTE: Use only in areas where bermudagrass or bahagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. Use tank mixtures of this product plus Oust only on railroads, highways, utility plant sites, or other right-of-way areas.

When applied as directed for "Noncrop Uses" under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahagrass. This product may be tank-mixed with Oust as recommended for residual control. Make applications to dormant bermudagrass or bahagrass. Tank mixtures of this product plus Oust may delay greenup. To avoid delays in greenup and minimize injury, do not add more than 1 ounce per acre of Oust on bermudagrass or more than 1/2 ounce per acre on bahagrass, or treat when these grasses are in a semi-dormant condition.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is in or beyond the 4 to 6-leaf stage.

WEEDS CONTROLLED

Rate recommendations for control or suppression of winter annuals and tall fescue are listed below:

Apply the recommended rates of this product alone or as a tank mixture in 10 to 25 gallons of water, plus 0.5 to 1 percent nonionic surfactant by total spray volume per acre.

For the best recommendation for the mixture of weeds within your geographic areas, contact your Monsanto sales representative.

WEEDS CONTROLLED OR SUPPRESSED WITH ROUNDUP® ALONE*

NOTE: C = Control

S = Suppression

WEED SPECIES	ROUNDUP FLUID OZ/ACRE					
	8	12	16	24	32	64
Barley, little <i>Hordeum pusillum</i>	S	C	C	C	C	C
Bedstraw, catchweed <i>Galium aparine</i>	S	C	C	C	C	C
Bluegrass, annual <i>Poa annua</i>	S	C	C	C	C	C
Chervil <i>Chaerophyllum tainturieri</i>	S	C	C	C	C	C
Chickweed, common <i>Stellaria media</i>	S	C	C	C	C	C
Clover, crimson <i>Trifolium incarnatum</i>	•	S	S	C	C	C
Clover, large hop <i>Trifolium campestre</i>	•	S	S	C	C	C
Fescue, tall <i>Festuca arundinaceae</i>	•	•	•	•	S	S

Geranium, Carolina <i>Geranium carolinianum</i>	•	•	S	S	C	C
Henbit <i>Lamium amplexicaule</i>	•	S	C	C	C	C
Ryegrass Italian <i>Lolium multiflorum</i>	•	•	S	C	C	C
Speedwell, corn <i>Veronica arvensis</i>	S	C	C	C	C	C
Vetch, common <i>Vicia sativa</i>	•	•	S	C	C	C

*These rates apply only to sites where an established competitive turf is present.

WEEDS CONTROLLED OR SUPPRESSED WITH ROUNDUP® PLUS OUST*

NOTE: C = Control

S = Suppression

		ROUNDUP + OUST						
WEED SPECIES	ROUNDUP (FL. OZ/A)	8	12	12	16	16	12	16
	+ OUST (OZ/A)	+	+	+	+	+	+	+
		1/4	1/4	1/2	1/4	1/2	1	1
Barley, little <i>Hordeum pusillum</i>		C	C	C	C	C	C	C
Bedstraw, catchweed <i>Galium aparine</i>		C	C	C	C	C	C	C
Bluegrass, annual <i>Poa annua</i>		S	C	C	C	C	C	C
Chervil <i>Chaerophyllum tainturieri</i>		C	C	C	C	C	C	C

		ROUNDUP + OUST						
WEED SPECIES	ROUNDUP (FL. OZ/A)	8	12	12	16	16	12	16
	+ OUST (OZ/A)	+	+	+	+	+	+	+
		1/4	1/4	1/2	1/4	1/2	1	1
Chickweed, common <i>Stellaria media</i>		S	C	C	C	C	C	C
Clover, crimson <i>Trifolium incarnatum</i>		S	S	S	S	C	C	C
Clover, large hop <i>Trifolium campestre</i>		•	•	S	S	S	C	C
Fescue, tall <i>Festuca arundinaceae</i>		•	•	•	•	•	S	S
Geranium, Carolina <i>Geranium carolinianum</i>		•	S	S	C	C	C	C
Henbit <i>Lamium amplexicaule</i>		•	S	C	C	C	C	C
Ryegrass, Italian <i>Lolium multiflorum</i>		•	S	S	C	C	C	C
Speedwell, corn <i>Veronica arvensis</i>		S	C	C	C	C	C	C
Vetch, common <i>Vicia sativa</i>		C	C	C	C	C	C	C

* These rates or mixtures of rates apply only to sites where an established competitive turf is present.

RELEASE OF ACTIVELY GROWING BERMUDAGRASS

When applied as directed, this product will aid in the release of bermudagrass by providing control of annual species listed in the "Weeds Controlled" section of this and the Oust label, and suppression or partial control of certain perennial weeds.

For control or suppression of those annual species listed on this label, use 1 to 3 pints of this product as a broadcast spray in 10 to 25 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or length of runner in annual vines). Use the higher rate as plant size increases or as they approach flower or seedhead formation.

Use the higher rate of this product for partial control of the following perennial species. Use the lower rates for suppression of growth. For best results, see the "Weeds Controlled" section of this label for proper stage of growth.

Bahiagrass

Paspalum notatum

Johnsongrass**

Sorghum halepense

Bluestem, silver

Andropogon saccharoides

Trumpet creeper*

Campsis radicans

Fescue, tall

Festuca arundinacea

Vaseygrass

Paspalum urvillei

*Suppression at higher rates only.

**Control at the higher rates.

This product may be tank-mixed with Oust. If tank-mixed, use no more than 1 to 2 pints per acre of this product with 1 to 2 ounces of Oust per acre.

Use the lower rates of both mixtures to control annual weeds below 6 inches in height (or runner length in annual vines) that are listed in the "Weeds Controlled" section of this booklet and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages.

Use the higher rates of this product to provide partial control of the following perennial weeds. Use the lower rates for suppression of growth.

Bahiagrass*Paspalum notatum***Bluestem, silver***Andropogon saccharoides***Broomsedge***Andropogon virginicus***Dock, curly***Rumex crispus***Dogfennel***Eupatorium capilliflorum***Fescue, tall***Festuca arundinacea*

*Suppression at higher rates only.

**Control at the higher rates.

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may result.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

Johnsongrass**Sorghum halepense***Poorjoe*****Diodia teres***Trumpetcreeper****Campsis radicans***Vaseygrass***Paspalum urvillei***Vervain, blue***Verbena hastata*

COOL SEASON TURF GROWTH REGULATION

When applied as directed, this product will suppress growth and seedhead development of listed turf species in industrial sites.

This product is recommended for management of coarse turfs on roadside rights-of-way or other industrial areas. Do not use on high-quality turf or other areas where some turf color changes cannot be tolerated. Slight turf discoloration may occur but turf will regreen and regrow under moist conditions as effects of this product wear off.

Apply 4 to 6 fluid ounces of this product per acre alone or in a recommended tank mixture. Spray volumes of 10 to 40 gallons per acre are recommended.

When using this product, mix 2 quarts of a nonionic surfactant per 100 gallons of spray solution.

This product can be used for growth and seedhead suppression of:

Tall Fescue
Smooth Brome

For best results, apply this product in a recommended tank mixture to actively growing turfgrasses after greenup in the spring of the year. For suppression of seedheads, applications must be made before boot-to-seedhead stage of development. Applications made from seedhead emergence until maturity may result in turf discoloration or injury.

After mowing or removal of seedheads, this product in a recommended tank mixture may also be used to suppress the growth of certain turfgrasses. Allow turf to recover from stress caused by heat, drought, or mowing before making applications. Applications made to turf under stress may increase the potential for discoloration or injury.

ANNUAL GRASSES

For growth suppression of some annual grasses such as annual ryegrass, wild barley and wild oats, apply 3 to 4 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments made after seedhead emergence may cause injury to the desired grasses.

TANK MIXTURES

For the following tank mixtures, consult each product label for weeds controlled and the correct stage of application. Do not treat turf under stress.

Tank mixtures plus 2,4-D Amine

For additional weed control benefits, up to 1 pound a.i. per acre of 2,4-D amine may be added to the following tank mixtures. Consult the label for 2,4-D amine for weeds controlled.

TALL FESCUE

Roundup plus Telar™

For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 1/2 ounce of Telar per acre.

This tank mixture can also be applied after mowing or removal of tall fescue seedheads for turf growth suppression. Make only one of the above applications per growing season.

Roundup plus Oust™

For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 1/4 ounce of Oust per acre.

Roundup plus Escort™

This tank mixture can be applied after mowing or removal of tall fescue seedheads for turf growth suppression and control or partial control of some annual weeds. Use up to 1/3 ounce of Escort per acre.

SMOOTH BROME

Roundup plus Oust

For suppression of smooth brome growth and seedheads and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 1/4 ounce of Oust per acre.

™Escort and Telar are trademarks of E. I. du Pont de Nemours and Company.

BAHIAGRASS SEEDHEAD AND VEGETATIVE SUPPRESSION

When applied as directed in the indicated noncrop areas (roadsides, airports, golf course roughs, and plant sites), this product will provide significant inhibition of seedhead emergence and will suppress vegetative growth for a period of approximately 45 days with single applications and approximately 120 days with sequential applications.

Apply this product 1 to 2 weeks after full greenup of bahiagrass or after the bahiagrass has been mowed to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 6 fluid ounces per acre of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 25 gallons of water per acre.

Sequential applications of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume may be made at approximately 45 day intervals to extend the period of seedhead and vegetative growth suppression. For continued seedhead suppression,

sequential applications must be made prior to seedhead emergence. Apply no more than 2 sequential applications per year. As a first sequential application, apply 4 fluid ounces of this product per acre plus nonionic surfactant. A second sequential application of 2 to 4 fluid ounces per acre plus nonionic surfactant may be made approximately 45 days after the last application.

A tank mixture of this product plus Oust may be applied only on roadsides for seedhead inhibition and vegetative suppression. Apply 6 fluid ounces per acre of this product plus 0.25 ounce per acre of Oust, plus 0.5 to 1 percent nonionic surfactant by total spray volume 1 to 2 weeks following an initial spring mowing. When using this product plus Oust for suppression of bahiagrass, make only one application per year.

CROPPING SYSTEMS

When applied as directed for "Cropping Systems", under the conditions described, this product controls annual and perennial weeds listed on this label, prior to the emergence of direct seeded crops or prior to transplanting of crops listed on this label.

See "General Information" and "Mixing, Additives and Application Instructions" sections of this label for essential product performance information.

See the following "Cropping Systems" sections for specific recommended uses.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE, GREEN STEMS OR FRUIT OF DESIRABLE CROPS, PLANTS, TREES OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Except as otherwise specified on this label, repeat treatments must be made before the crop emerges in accordance with the instructions of this label.

Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 8 quarts per acre of this product per year.

Do not plant subsequent crops other than those on the label for 30 days following application.

Do not harvest or feed treated vegetation for 8 weeks following application. Following spot treatment or selective equipment use, allow 14 days before grazing domestic livestock or harvesting forage grasses and legumes.

ALFALFA*	LETTUCE
ARTICHOKE (Jerusalem)	LOGANBERRY
ASPARAGUS*	LONGAN
ATEMOYA	LYCHEE
BARLEY*	MELONS***
BEANS (All)	MUSTARD GREENS
BEET GREENS	OATS*
BEETS (Red, Sugar)	OKRA
BLACKBERRY	OLALLIEBERRY
BLUEBERRY	ONION
BOYSENBERRY	PARSNIPS
BREADFRUIT	PASSION FRUIT
BROCCOLI	PEANUTS
CABBAGE	PEAS (All)
CANISTEL	PEPPER***
CARAMBOLA	PERSIMMONS
CARROT	PINEAPPLE****
CAULIFLOWER	POTATO (Irish, Sweet)
CELERY	PUMPKIN***
CHICORY	RADISH
CORN (All)*	RASPBERRY (Black, Red)
COTTON*	RICE**
CRANBERRY	RUTABAGA
CUCUMBER***	SAPODILLA
CURRENT	SAPOTE (Black, Mamey, White)
DATES	SORGHUM (Milo)*
DEWBERRY	SOURSOP
EGGPLANT***	SOYBEANS*
ELDERBERRY	SPINACH
FORAGE GRASSES*	SQUASH*** (Summer, Winter)
FORAGE LEGUMES*	SUGAR APPLE
GARLIC***	TAMARIND
GOOSEBERRY	TOMATILLO***
GOURDS***	TOMATOES***†
HORSERADISH	TURNIPS

HUCKLEBERRY
JABOTICABA
JACKFRUIT
KALE
LENTILS

WATERCRESS***
WATERMELON***
WHEAT*
YAMS

* Spot treatments may be applied in these crops.

** Do not treat rice fields or levees when the fields contain flood water.

*** Apply only prior to planting. Allow at least 3 days between application and planting.

**** Do not feed or graze treated pineapple forage following application.

† Use is restricted to direct seeded crops only.

When applying this product prior to transplanting crops into plastic mulch, care must be taken to remove residues of this product from the plastic prior to transplanting. Residues can be removed by 1/2 inch natural rainfall or by applying water via a sprinkler irrigation system.

Spot Treatment (Only those crops with "*" can be spot treated.)—Applications in growing crops must be made prior to heading of small grains and milo, initial pod set in soybeans, silking of corn, or boll opening on cotton.

For forage grasses and forage legumes see "Spot Treatment" in the "Pastures" section of "Cropping Systems" in this label.

For dilution and rates of application using boom or hand-held equipment, see "Mixing, Additives and Application Instructions" and "Weeds Controlled" sections of this label.

NOTE: FOR FORAGE GRASSES AND FORAGE LEGUMES, NO MORE THAN ONE-TENTH OF ANY ACRE SHOULD BE TREATED AT ONE TIME. FOR ALL OTHER CROPS, DO NOT TREAT MORE THAN 10 PERCENT OF THE TOTAL FIELD AREA TO BE HARVESTED.

THE CROP RECEIVING SPRAY IN TREATED AREA WILL BE KILLED. TAKE CARE TO AVOID DRIFT OR SPRAY OUTSIDE TARGET AREA FOR THE SAME REASON.

Selective Equipment—This product may be applied through recirculating sprayers, shielded applicators, or wiper applicators in cotton and soybeans. Shielded and wiper applicators may also be used in tree crops and grapes. Wiper applicators may be used in rutabagas, forage grasses and forage legumes, including pasture sites and grain sorghum (milo).

See the "Selective Equipment" part of the "Application Equipment and Techniques" section of this label for information on proper use and calibration of this equipment.

Allow at least the following time intervals between application and harvest:

Cotton, Soybeans	7 days
Apples, Atemoya, Avocado, Breadfruit, Canistel, Carambola, Cherry, Citrus, Dates, Grapes, Jaboticaba, Jackfruit, Longan, Lychee, Passion Fruit, Pear, Persimmons, Rutabagas, Sapodilla, Sapote, Soursop, Sugar Apple, Tamarind	14 days
Stone Fruit.....	17 days
Nut Crops.....	21 days
Sorghum (milo)*	40 days

* Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

ASPARAGUS

When applied as directed for "Cropping Systems" under the conditions described, this product controls weeds listed on this label in asparagus.

For specific rates of applications and instructions for control of various annual and perennial weeds, see the "Weeds Controlled" section of this label.

Prior to Crop Emergence—Apply this product prior to crop emergence for the control of emerged labeled annual and perennial weeds. DO NOT APPLY WITHIN A WEEK BEFORE THE FIRST SPEARS EMERGE.

Spot Treatment—Apply this product immediately after cutting, but prior to the emergence of new spears. Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

Postharvest—Apply this product after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as directed or shielded spray in order to avoid contact of the spray with ferns, stems or spears. Direct contact of the spray with the asparagus may result in serious crop injury.

NOTE: Select and use recommended types of spray equipment for postemergence postharvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

BERRIES AND SMALL FRUITS

For cranberries, apply after fruit set and no later than 30 days before harvest.

For other berries, apply as a preplant broadcast application, or as a directed spray or wiper application post-planting.

Wiper applicators may be used in cranberries in accordance with instructions in this section.

See "General Information" and "Mixing, Additives and Application Instructions" sections of this label for essential product performance information.

See the "Selective Equipment" part of the "Application Equipment and Techniques" section of this label for information on recommended use and calibration of this equipment.

For Wick or other Wiper Applicators—Mix 1 gallon of this product in 4 gallons of water to prepare a 20 percent solution. Apply the solution to emerged weeds. Apply after cranberry fruit set and no later than 30 days before harvest.

In severe infestations, reduce equipment ground speed to ensure that adequate amounts of this product are wiped on the weeds. A second treatment in the opposite direction may be beneficial.

Do not permit herbicide solution to contact desirable vegetation, including green shoots, canes, or foliage.

FALLOW AND REDUCED TILLAGE SYSTEMS

FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO SUPPLEMENTAL LABEL.

Use this product in fallow and reduced tillage systems for control of annual weeds prior to emergence of crops listed in this label. Refer to the "Weeds Controlled" section of this label for specific rates and instructions. This product may be applied using ground or aerial spray equipment. See the "Application Equipment and Techniques" section of this label for instructions.

TANK MIXTURES

ROUNDUP® plus BANVEL plus NONIONIC SURFACTANT

ROUNDUP® plus 2,4-D plus NONIONIC SURFACTANT

ROUNDUP® plus GOAL™ plus NONIONIC SURFACTANT

DO NOT APPLY BANVEL OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA.

Applications of 2,4-D or Banvel must be made at least 7 days prior to planting corn. Applications of 2,4-D must be made at least 30 days prior to planting soybeans.

The addition of Banvel in a mixture with this product may provide short-term residual control of selected weed species. Some crop injury may occur if Banvel is applied within 45 days of planting. Refer to the Banvel and 2,4-D labels for cropping restrictions and other use instructions.

Roundup plus Goal Tank Mixtures

This product alone or in tank mixtures with Goal plus 0.5 to 1 percent nonionic surfactant by total spray volume will provide control of those weeds listed below.

Make applications when weeds are actively growing and at the recommended stages of growth. Avoid spraying when weeds are subject to moisture stress, when dust is on the foliage or when straw canopy covers the weeds.

ROUNDUP
12 fluid oz/acre

Wheat	18"
Barley	12"
Bluegrass, annual	6"
Barnyardgrass	6"
Rye 6"	

ROUNDUP
16 fluid oz/acre

Annual grasses at left plus:	
Ryegrass, annual	6"
Chickweed	6"
Groundsel	6"
Marestail	6"
Rocket, London	6"
Shepherdspurse	6"
Crabgrass	12"
Johnsongrass, seedling	12"
Lambsquarters	12"
Oats, wild	12"
Pigweed, redroot	12"
Mustards	12"

ROUNDUP
12 fluid oz/acre
+
GOAL**
2 to 4 fluid oz/acre

Annual grasses above plus:	
Cheeseweed, common	3"
Chickweed	3"
Groundsel	3"
Rocket, London	6"
Shepherdspurse	6"

ROUNDUP
16 fluid oz/acre
+
GOAL**
2 to 4 fluid oz/acre

Annual weeds above plus:	
Cheeseweed, common	6"
Groundsel	6"
Chickweed	12"
Rocket, London	12"
Shepherdspurse	12"

*Maximum height or length in inches.

**Use the higher rate when weeds approach maximum recommended height or stands are dense.

These recommended tank mixtures may be applied using ground or aerial spray equipment. Refer to the "Weeds Controlled" section of this label for specific rates and instructions.

TMGoal is a trademark of Rohm and Haas Company.

ECOFARMING SYSTEMS

The recommendations made in this section are not registered for use in California.

The Ecofarming System consists of the following rotation: winter wheat, corn/sorghum, ecofallow.

Use the following tank mixtures for control of emerged annual weeds before planting corn or sorghum in the Ecofarming System.

ROUNDUP® at 16 to 20 fluid ounces per acre
 plus
2,4-D at 0.375 to 0.5 pound a.i. per acre
 plus
ATRAZINE at 0.75 to 1 pound a.i. per acre
 plus
LASSO® at 2.5 to 3 quarts per acre

The above tank mixture should be applied in 28-0-0 or 32-0-0 liquid fertilizer carrier at 20 to 30 gallons per acre. The liquid fertilizer may be diluted with water to achieve the required carrier volume.

WEEDS CONTROLLED—The following weeds, up to a maximum height of 4 inches, will be controlled:

Brome, downy

Bromus tectorum

Cheat

Bromus secalinus

Foxtail, green

Setaria viridis

Foxtail, yellow

Setaria lutescens

Kochia*

Kochia scoparia

Lettuce, prickly

Lactuca serriola

Pigweed, redroot

Amaranthus retroflexus

Thistle, Russian

Salsola kali

Wheat, volunteer

Triticum aestivum

*For improved control of kochia, add 4 fluid ounces per acre (0.125 pound a.i. per acre) of Banvel to the above tank mixture.

Risk of crop injury from 2,4-D or Banvel can be reduced by applying this treatment 7 to 14 days before planting.

Refer to the label booklet for Lasso herbicide for preemergence weed control achieved by this tank mixture.

Refer to the specific product labels for crop rotation restrictions and cautionary statements for all products used in these tank mixtures.

® Lasso is a registered trademark of Monsanto Company.

AID TO TILLAGE

This product, when used in conjunction with preplant tillage practices, will provide control of downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre. Make applications when weeds are actively growing and before they are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage. Tank mixtures with residual herbicides may result in reduced performance.

PASTURES

Apply this product prior to planting forage grasses and legumes.

Pasture or Hay Crop Renovation—When applied as a broadcast spray, this product controls the annual and perennial weeds listed in this label prior to planting forage grasses or legumes. Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

Spot Treatment—When applied as a spot treatment as recommended, this product controls annual and perennial weeds listed in this label which are growing in pastures, forage grasses and forage legumes composed of bahiagrass, bermudagrass, bluegrass, brome, fescue, orchardgrass, ryegrass, timothy, wheatgrass, alfalfa or clover.

Wiper Application—When applied as directed, this product controls or suppresses the weeds listed under "Wiper Applicators" in the "Selective Equipment" section of this label.

For spot treatment and wiper application, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. Further applications may be made in the same area at 30 day intervals. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

SUGARCANE

When applied as directed for "Cropping Systems", under the conditions described, this product controls those emerged annual and perennial weeds listed on this label growing in or around sugarcane or in fields to be planted to sugarcane. This product will also control undesirable sugarcane.

NOTE: Where repeat treatments are necessary, do not exceed a total of 10.6 quarts of this product per acre per year. Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

Broadcast Treatment—Apply this product in 10 to 40 gallons of water per acre on emerged weeds growing in fields to be planted to sugarcane.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "Weeds Controlled" section of this label.

For removal of last stubble or ratoon cane, apply 4 to 5 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 or more new leaves. Allow 7 or more days after application before tillage.

Spot Treatment in or Around Sugarcane Fields—For dilution and rates of application using hand-held equipment, see "Mixing, Additives and Application Instructions" and "Weeds Controlled" sections of this label.

For control of volunteer or diseased sugarcane, make a 1 percent solution of this product in water and spray to wet the foliage of vegetation to be controlled.

NOTE: When spraying volunteer or diseased sugarcane, the plants should have at least 7 new leaves.

Avoid spray contact with healthy cane plants since severe damage or destruction may result.

Do not feed or graze treated sugarcane forage following application.

CONSERVATION TILLAGE, MINIMUM TILLAGE AND NO-TILL SYSTEMS CORN AND SOYBEANS Tank Mixtures

The recommendations made in this section are not registered for use in California.

When applied as recommended under the conditions described, the tank mixtures listed in this section control many emerged weeds, and give preemergence control of many annual weeds where corn or soybeans will be planted directly into a cover crop, established sod, or in previous crop residues.

Refer to specific product labels for crop rotation restrictions and cautionary statements of all products used in these tank mixtures. For mixing instructions, see the "Mixing, Additives and Application Instructions" section of this label.

Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre before, during or after planting. Do not apply these mixtures after crop emergence.

When tank mixing with residual herbicides, add an agriculturally approved nonionic surfactant at 0.5 to 1 percent by volume of spray solution. The addition of 1 to 2 percent dry ammonium sulfate by weight may increase the performance of this product.

NOTE: When using these tank mixtures, do not exceed 4 quarts of this product per acre.

CORN

For residual control, this product may be tank-mixed with the following herbicides or combination of herbicides:

LASSO®/ALACHLOR
LARIAT®
BULLET®
DUAL™
BICEP™

ATRAZINE
CYANAZINE
SIMAZINE
PROWL™

For improved burndown, this product may be tank-mixed with 2,4-D or dicamba. Applications of 2,4-D or dicamba must be made at least 7 days prior to planting corn. See the "Weeds Controlled" section for specific rate information.

SOYBEANS

For residual control, this product may be tank-mixed with the following herbicides or combination of herbicides:

CANOPY™	LOROX™ PLUS
COMMAND™	PREVIEW™
DUAL™	PROWL™
GEMINI™	TURBO™
LESSO®/ALACHLOR	SCEPTER™
LEXONE™	SENCORT™
LINURON	SQUADRON™

For improved burndown, this product may be tank-mixed with the following herbicides:

2,4-DB

2,4-D*

* Applications of 2,4-D must be made at least 30 days prior to planting soybeans. See the "Weeds Controlled" section for specific rate information.

CORN AND SOYBEANS

Annual Weeds—For difficult to control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleaf signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1.5 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall. For a complete list of annual weeds controlled, see the "Weeds Controlled" section of this label.

Perennial Weeds—At normal application times in minimum tillage systems, perennial weeds may not be at the proper stage of growth for control. See the "Weeds Controlled" section of this label for the proper stage of growth for perennial weeds.

Use of 2 to 4 quarts of this product per acre in the tank mixtures mentioned above, under these conditions provides top kill and reduces competition from many emerged perennial grass and broadleaf weeds. For emerged perennial weeds controlled, see the "Weeds Controlled" section of this label.

To obtain the desired stage of growth, it may be necessary to apply this product alone in the late summer or fall and then follow with a label-approved, seedling weed control program at planting.

USE OF THESE TANK MIXTURES FOR BERMUDAGRASS OR JOHNSONGRASS CONTROL IN MINIMUM TILLAGE SYSTEMS IS NOT RECOMMENDED. For bermudagrass control, follow the instructions under "Control of Perennial Weeds" section of this label and then use a label-approved, seedling weed-control program in a minimum tillage or conventional tillage system. For johnsongrass control, follow instructions under "Control of Perennial Weeds" section of this label, and then use a label-approved seedling weed-control program with conventional tillage.

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™Sencor and Turbo are trademarks of Bayer AG.

™Prowl, Scepter and Squadron are trademarks of American Cyanamid Company.

™Command is a trademark of FMC Corporation.

PREHARVEST APPLICATIONS

COTTON

When applied as directed under the conditions described, this product controls annual and perennial weeds listed on this label prior to the harvest of cotton.

Broadcast Applications—This product may be applied using either aerial or ground spray equipment. For ground applications with broadcast equipment, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

FOR AERIAL APPLICATIONS, REFER TO THE "APPLICATION EQUIPMENT AND TECHNIQUES" AND "AERIAL EQUIPMENT" SECTIONS OF THIS LABEL.

FOR AERIAL APPLICATIONS IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS.

DO NOT EXCEED A MAXIMUM RATE OF 1 QUART PER ACRE OF THIS PRODUCT WHEN MAKING APPLICATIONS BY AIR.

Weed Control—For specific rates of application and instructions for control of various annual and perennial weeds, for this product used alone or in the following tank mixtures, see the "Weeds Controlled" section of this label.

To control johnsongrass using multiple-directed or broadcast over-the-top-spray equipment, apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 20 gallons of water per acre. Ensure complete coverage.

For partial control of field bindweed, apply 1 quart of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 20 gallons of water per acre. Apply when bindweed is actively growing and 12 inches or greater in length. Reduced performance may result if bindweed is under drought stress.

Tank Mixtures

ROUNDUP® plus DEF™ 6

ROUNDUP plus FOLEX™

ROUNDUP plus PREP™

ROUNDUP plus PREP plus DEF 6 or FOLEX

When applied as recommended under the conditions described, these tank mixtures control annual and perennial weeds listed on this label prior to the harvest of cotton. For application guidelines, precautions and use rates, refer to the DEF, Folex and Prep labels.

This product when tank-mixed with DEF 6 or Folex defoliants may provide enhancement of cotton leaf drop and regrowth inhibition.

Timing of Application—Apply this product or these tank mixtures for preharvest weed control after 60 percent of the cotton bolls have opened.

NOTE: DO NOT APPLY TO CROPS GROWN FOR SEED. Allow a minimum of 7 days between application and harvest. Do not feed or graze treated cotton forage or hay following pre-harvest applications.

™DEF is a trademark of Mobay Chemical Corporation.

™Folex and Prep are trademarks of Rhone-Poulenc, Inc.

TREE AND VINE CROPS

This product is recommended for weed control in established groves, vineyards, or orchards, or for site preparation prior to transplanting crops listed in this section. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high-volume wands, lances, or orchard guns, or with wiper applicator equipment, except as directed in this section. See the "Application Equipment and Techniques" section of this label for specific information on use of equipment.

When applying this product, refer to the "Weeds Controlled" section of this label and to specific recommendations in this section for rates to be used.

NOTE

Repeat treatments may be necessary to control weeds originating from underground parts of untreated weeds or from seeds. This product does not provide residual weed control. For subsequent weed control, use repeated applications of this product. Do not apply more than 10.6 quarts of this product per acre per year.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION, SPRAY, DRIFT, OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, SUCKERS, FRUIT, OR OTHER PARTS OF TREES OR VINES. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.

AVOID PAINTING OUT STUMPS WITH THIS PRODUCT AS INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES.

Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed or cut and have not been allowed to regrow to the recommended stage for treatment.

For specific rates of applications and instructions, see the "Weeds Controlled" section of this label, and to specific recommendations which follow.

MIDDLES MANAGEMENT

FOR ANNUAL WEEDS IN MIDDLES BETWEEN ROWS OF TREE AND VINE CROPS

For citrus crops treat uniformly between trees.

ROUNDUP®

ROUNDUP plus GOAL™

This product alone or in mixtures with Goal will control or suppress the annual weeds listed below.

Apply the recommended rates of this product, either alone or in mixtures with Goal, plus 0.5 to 1 percent nonionic surfactant by spray volume in 3 to 10 gallons of water per acre. Apply when weeds are actively growing and less than 6 inches in height or diameter. If weeds are under drought stress, irrigate prior to application. Reduced control may occur if weeds have been mowed prior to application. Up to 48 fluid ounces per acre of this product may be used to control weeds which have been mowed, are stressed, or are growing in dense populations.

WEED SPECIES	MAXIMUM HEIGHT/ DIAMETER (INCHES)	RATE PER ACRE	
		ROUNDUP® (FLUID OUNCES)	GOAL (FLUID OUNCES)
Barley <i>Hordeum vulgare</i>	6	8	•
Bluegrass, annual <i>Poa annua</i>			
Barnyardgrass <i>Echinochloa crus-galli</i>	6	12	•
Chickweed, common <i>Stellaria media</i>			
Red Maids <i>Calandrinia ciliata</i>			
Crabgrass <i>Digitaria spp.</i>	6	16	•

Fleabane, flaxleaf <i>Conyza bonariensis</i>		OR
Groundsel, common <i>Senecio vulgaris</i>		16 to 32 + 4 to 16**
Junglerice <i>Echinochloa colonum</i>		
Lambsquarters, common <i>Chenopodium album</i>		
Pigweed, redroot <i>Amaranthus retroflexus</i>		
Rocket, London <i>Sisymbrium irio</i>		
Ryegrass, common <i>Lolium multiflorum</i>		
Shepherdspurse <i>Capsella bursa-pastoris</i>		
Sowthistle, annual <i>Sonchus oleraceus</i>		
Cheeseweed, common <i>Malva spp.</i>	3	12 to 32 + 4 to 16
Cheeseweed, common <i>Malva spp.</i>	6	16 to 32 + 4 to 16
Filaree* <i>Erodium spp.</i>		
Horseweed/Marestail <i>Conyza canadensis</i>		
Nettle, stinging <i>Urtica dioica</i>		

WEED SPECIES	MAXIMUM HEIGHT/ DIAMETER (INCHES)	RATE PER ACRE	
		ROUNDUP® (FLUID OUNCES)	GOAL (FLUID OUNCES)
Purslane, common <i>Portulaca oleracea</i>	6	16 to 32	+ 4 to 16

*Suppression only.

**The mixture of this product plus Goal is recommended when weeds are stressed or growing in dense populations.

STRIPS

FOR ANNUAL AND PERENNIAL WEEDS IN
STRIPS OF TREE AND VINE CROPS

TANK MIXTURES WITH RESIDUAL HERBICIDES

When applied as a tank mixture, this product provides control of the emerged annual weeds and control or suppression of emerged perennial weeds listed in this label. The following residual herbicides will provide preemergence control of those weeds listed in the individual product labels.

■ **ROUNDUP® plus GOAL™ 1.6E** ■

■ **ROUNDUP plus KARMEX™ DF** ■

■ **ROUNDUP plus KROVAR™ I** ■

■ **ROUNDUP plus KROVAR™ II** ■

■ **ROUNDUP plus SIMAZINE, PRINCEP CALIBERT™ 90** ■

■ **ROUNDUP plus SIMAZINE 4L** ■

■ **ROUNDUP plus SIMAZINE 80W** ■

- **ROUNDUP plus SOLICAM™ 80DF** ■
- **ROUNDUP plus SURFLAN™ AS** ■
- **ROUNDUP plus SURFLAN 75W** ■
- **ROUNDUP plus SIMAZINE** ■
(80W, or 4L, or PRINCEP CALIBER 90)
plus SURFLAN (AS or 75W)
- **ROUNDUP plus GOAL (1.6E)** ■
plus SURFLAN (AS or 75W)
- **ROUNDUP plus GOAL (1.6E) plus SIMAZINE** ■
(80W, or 4L, or PRINCEP CALIBER 90)
- **ROUNDUP plus GOAL (1.6E) plus SURFLAN (AS or 75W)** ■
plus SIMAZINE (80W, 4L, or PRINCEP CALIBER 90)

Do not apply these tank mixtures in Puerto Rico.

When tank-mixing with residual herbicides, add an agriculturally approved nonionic surfactant at 0.5 to 1 percent by volume of spray solution.

Refer to the individual product labels for specific crops, rates, geographical restrictions and precautionary statements.

Read and carefully observe the label claims, cautionary statements, rates and all other information on the labels of all products.

™Karmex is a trademark of E.I. duPont de Nemours and Company.

RECOMMENDED RATES

Annual Weeds—Apply 1 to 5 quarts per acre of this product in these tank mixtures. Use rates at the higher end of the recommended range when weeds are stressed, growing in dense populations or are greater than 12 inches tall.

Perennial Weeds—Apply 1 pint to 5 quarts per acre of this product in these tank mixtures to control or suppress perennial weeds. Follow the recommendations in the "Weeds Controlled" section of this label for stage of growth and application rates for specific perennial weeds.

■ **ROUNDUP® plus GOAL plus SIMAZINE/SURFLAN** ■

This product plus low rates of Goal in three-way or four-way mixtures with simazine and/or Surflan will provide postemergence control of the weeds listed below.

Refer to the individual simazine and Surflan labels for preemergence rates, weeds controlled, precautionary statements and other important information.

Apply these tank mixtures in 3 to 40 gallons of water. Add 0.5 to 1 percent nonionic surfactant by total spray volume to the spray solution.

Apply 1 to 5 quarts per acre of this product plus 4 to 48 fluid ounces per acre of Goal plus labeled rates of simazine and/or Surflan to control the following weeds:

Barley, wild

Hordeum leporinum

Bluegrass, annual

Poa annua

Cheeseweed, common

Malva spp.

Chickweed, common

Stellaria media

Filaree*

Erodium spp.

Fleabane, flaxleaf

Conyza bonariensis

Groundsel, common

Senecio vulgaris

Horseweed/Marestail

Conyza canadensis

Nettle, stinging

Urtica dioica

Pineappleweed

Matricaria matricariodes

Rocket, London

Sisymbrium irio

Shepherdspurse

Capsella bursa-pastoris

Sowthistle, annual

Sonchus oleraceus

*Use a minimum of 1.5 quarts of this product in these mixtures.

NOTE: This recommendation does not preclude the use of Goal in these mixtures at higher, labeled rates for preemergence weed control.

■ PERENNIAL GRASS SUPPRESSION ORCHARD FLOORS ■

When applied as directed, this product will suppress vegetative growth as indicated below.

Bahiagrass

This product will provide significant inhibition of seedhead emergence and will suppress vegetative growth for a period of approximately 45 days with a single application and approximately 120 days with sequential applications. Apply this product 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 6 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 25 gallons of water per acre.

Sequential applications of this product plus nonionic surfactant may be made at approximately 45-day intervals to extend the period of seedhead and vegetative growth suppression. For continued seedhead suppression, sequential applications must be made prior to seedhead emergence. Apply no more than 2 sequential applications per year. As a first sequential application, apply 4 fluid ounces of this product plus nonionic surfactant. A second sequential application of 2 to 4 fluid ounces may be made approximately 45 days after the last application.

Bermudagrass

For burndown, apply 1 to 2 quarts of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 20 gallons of water per acre. Use 1 quart of this product in 3 to 20 gallons of water per acre east of the Rocky Mountains. Use 1 to 2 quarts of this product in 3 to 10 gallons of water per acre west of the Rocky Mountains. Use this treatment only if reduction of the bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

Suppression only (east of the Rocky Mountains)—Apply 6 to 16 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 20 gallons of water per acre no sooner than 1 to 2 weeks after full green-up. Mowing prior to application may occur provided a minimum height of 3 inches is maintained. Rates of 6 to 10 fluid ounces of this product plus nonionic surfactant should be used in shaded conditions

or where a lesser degree of suppression is desired. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated.

Suppression only (west of the Rocky Mountains)—Apply 16 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre up to 6 inches in height and no sooner than 1 to 2 weeks after full green-up. Mowing prior to application may occur provided a minimum height of 3 inches is maintained. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated.

Cool Season Grass Covers

For suppression of tall fescue, fine fescue, orchardgrass and quackgrass, apply 8 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 10 to 20 gallons of water per acre. For best suppression, add ammonium sulfate to the spray solution at a rate of 2 percent by weight or 17 pounds per 100 gallons of spray solution.

For suppression of Kentucky bluegrass covers, apply 6 fluid ounces of this product plus 0.5 to 1 percent nonionic surfactant. Do not add ammonium sulfate.

For best results, mow cool-season grass covers in the spring to even their height and apply the recommended rate of this product 3 to 4 days after mowing. Avoid treating cool season grass covers under poor growing conditions, such as drought stress (drip irrigation), disease or insect damage.

LOW VOLUME APPLICATION (FLORIDA AND TEXAS)

For burndown or control of the weeds listed, apply the recommended rates of this product plus 0.5 to 1 percent nonionic surfactant by total spray volume in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

Annual Weeds

Goatweed—Apply 2 to 3 quarts per acre of this product plus 17 pounds of ammonium sulfate per 100 gallons of water plus 0.5 to 1 percent nonionic surfactant by total spray volume. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 2 quarts per acre when plants are less than 8 inches tall and 3 quarts per acre when plants are greater than 8 inches. If goatweed is greater than 8 inches, the addition of Krovar II or Karmex may improve control. Use labeled rates for these residual products.

Read and carefully observe the label claims, cautionary statements, rates and all other information on the Krovar II and Karmex labels.

Perennial Weeds

Apply when weeds are actively growing and at the growth stages listed in the "Perennial Weeds Controlled" section of this label. If perennial weeds are mowed, allow weeds to regrow to the recommended stage of growth.

S = Suppression

B = Burndown

PC = Partial control

C = Control

WEED SPECIES	ROUNDUP RATE PER ACRE			
	1 qt	2 qts	3 qts	5 qts
Bermudagrass	B	●	PC	C
Guineagrass				
Texas and Florida Ridge	B	C	C	C
Florida Flatwoods	●	B	C	C
Paragrass	B	C	C	C
Torpedograss	S	●	PC	C

TREE CROPS

Citrus*: citron, grapefruit, kumquat, lemon, lime, orange, pummelo, tangelo, tangerine, tangors.

Nuts**: almond, chestnuts, filbert, macadamia, pecan, pistachio, walnut.

Pome Fruit*: apple, pear.

Stone Fruit***: apricots, cherries, nectarines, olives, peaches, plums/prunes.

For cherries, any application equipment listed in this section may be used in all states.

For citron and olives, apply as a directed spray only.

Any application equipment listed in this section may be used in apricots, nectarines, peaches, and plums/prunes growing in Arizona, California, Colorado, Idaho, Kansas, Kentucky, New Jersey, North Dakota, Oklahoma, Oregon, Texas, Utah, and Washington, except for peaches grown in the states specified in the following paragraph. In all other states use wiper equipment only.

For PEACHES grown in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and Tennessee only, apply with a shielded boom sprayer or shielded wiper applicator which prevents any contact of this product with the foliage or bark of trees. Apply no later than 90 days after first bloom. Applications made after this time may result in severe damage. Remove suckers and low hanging limbs at least 10 days prior to application. Avoid applications near trees with recent pruning wounds or other mechanical injury. Apply only near trees which have been planted in the orchard for 2 or more years. EXTREME CARE MUST BE TAKEN TO ENSURE NO PART OF THE PEACH TREE IS CONTACTED.

Tropical Fruit: acerola, atemoya*, avocado*, banana (plantains), breadfruit*, canistel*, carambola*, coffee****, dates*, figs*, guava, jaboticaba*, jackfruit*, longan*, lychee*, mango*, papaya, passion fruit*, persimmons*, sapodilla, sapote, soursop, sugar apple*, tamarind*, tea. Allow a minimum of 1 day between last application and harvest of guava and papaya. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

NOTE:

*Allow a minimum of 14 days between last application and harvest.

**Allow a minimum of 21 days between last application and harvest of these crops.

***Allow a minimum of 17 days between last application and harvest.

****Allow a minimum of 28 days between last application and harvest.

VINE CROPS

Kiwi Fruit*

Grapes:* Any variety of table, wine, or raisin grape may be treated with any equipment listed in this section.

In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury.

* Applications should not be made when green shoots, canes, or foliage are in the spray zone.

*Allow a minimum of 14 days between last application and harvest.

CALIFORNIA

This product has been approved by the U.S. Environmental Protection Agency and by the state of California for the uses, crops and sites listed in this label. With the exception of these items, this booklet contains the material approved by California.

These use conditions, crops and sites may not be treated with this product in California until approval is received:

- Cool season turf growth regulation.
- Escort tank mixtures.

This product is protected by U.S. Pat. No. 4,405,531. Other patents pending.
No license granted under any non-U.S. patent(s).

**This product has been approved for use in California
except as stated otherwise on page 87.**

EPA Reg. No. 524-445

898.07-000.27/53

In case of an emergency involving this product,
Call Collect, day or night, (314) 694-4000.

© MONSANTO COMPANY 1993

MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI, 63167 U.S.A.

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© MONSANTO COMPANY 1993

MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI, 63167 U.S.A.

Based on

NOT REVIEWED
In Accordance with

4/2/92

Monsanto

Monsanto Company
Suite 1100
700 14th Street, N.W.
Washington, D.C. 20005

June 24, 1993

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor
Product Manager (25)

Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**
Submission of Final Printed Labels:
Supplemental Label for Preharvest Applications in Wheat

Dear Sir:

Monsanto is submitting final printed labels of a Roundup® herbicide supplemental label for your files. This supplemental label, which allows applications prior to the harvest of wheat, was approved by the Agency on June 17, 1993.


Enclosed are five (5) copies of the label (version MAP-3519-5/21/93).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.
Registration Manager
(314) 694-7248

(A) 	United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number 185073
	Application for Pesticide:		
	Section I		



1. Company/Product Number 524-445	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

Section II	
<input type="checkbox"/> Amendment - Explain below	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 6/17/93
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of final printed label: Supplemental label for preharvest applications in wheat

Section III			
1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Type of Container <input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted.		If "Yes," Unit Package wgt.	No. per container
		If "Yes," Package wgt.	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) of Retail Container various	
		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product	
6. Manner In Which Label Is Affixed To Product		<input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled <input checked="" type="checkbox"/> Other (vinyl glued)	

Section IV			
1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped) 
2. Signature 	3. Title Registration Manager		
4. Typed Name Sheila A. Schuette	5. Date June 24, 1993		

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PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup and this supplement.

Roundup
Herbicide by **Monsanto**

EPA Reg. No. 524-445

NOT REVIEWED
In Accordance with PR Notice 82-2.
Revised Labeling Dated 6/17/93

FOR PREHARVEST APPLICATIONS IN WHEAT

Keep out of reach of children.

WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

*Roundup is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup herbicide for essential product performance information.

RECOMMENDATIONS

This product controls annual and perennial weeds listed on this label prior to the harvest of wheat. Make applications

after the hard-dough stage of grain (30% or less grain moisture) and at least 7 days prior to harvest.

This product may be applied using either aerial or ground spray equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for instructions for ground and aerial applications.

For control of quackgrass or suppression of Canada thistle, apply 1 quart of this product plus 0.5% nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre.

For suppression of field bindweed, apply 1 to 2 pints of this product plus 0.5 to 1.0 pounds active ingredient of 2,4-D plus 0.5% nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre.

DO NOT APPLY MORE THAN 1 QUART PER ACRE OF THIS PRODUCT FOR PREHARVEST APPLICATIONS.

For specific rates of application and instructions for control of other annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

NOTE: It is not recommended that wheat grown for seed be treated because a reduction in germination or vigor may occur.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

MAP 3519-5/21/93

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MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167

Monsanto

Monsanto Company
Suite 1100
700 14th Street, N.W.
Washington, D.C. 20005

June 22, 1993

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor
Product Manager (25)


Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**
Submit Final Printed Supplemental Label

Dear Sir:


The supplemental label for Roundup Herbicide to allow tank mixing Roundup with Arsenal Applicators Concentrate for forestry conifer release in the States of Maine, New Hampshire and Vermont was approved on April 1, 1993. Attached are five (5) copies of the final printed label.

If you have any questions regarding this submission, please contact Dr. Russell Schneider at our Washington office or me at 314-694-2124.

Sincerely,


Lydia A. Suba
Registration Manager

cc: R.P. Schneider
D.M. Fee-White
D.A. Humphrey

(A) 	United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number 185016
	Application for Pesticide:		

Section I

1. Company/Product Number 524-445	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup® Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section II

<input type="checkbox"/> Amendment - Explain below	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated 4/1/93
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - explain below.

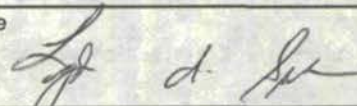
Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submit final printed supplemental label - Roundup Herbicide tank mix with arsenal applicators concentrate

Section III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal	<input type="checkbox"/> Plastic
				<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
				<input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted.					
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container	4. Size(s) of Retail Container	5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product			
6. Manner In Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input type="checkbox"/> Other (_____)			

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Dr. Russell P. Schneider		Title Agricultural Regulation Director		Telephone No. (Include Area Code) (202) 785-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					
2. Signature 		3. Title Registration Manager		6. Date Application Received (Stamped) 	
4. Typed Name Lydia A. Suba		5. Date 6/22/93			

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PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

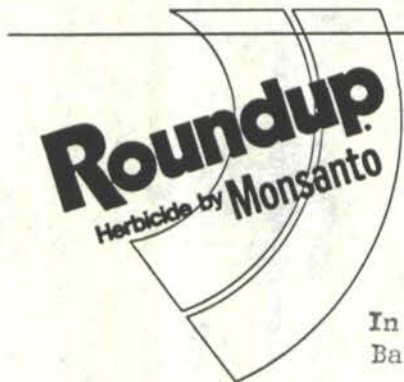
SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.

SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE AND ARSENAL™ APPLICATORS CONCENTRATE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Labels" as used in this supplemental labeling refers to the label booklet for Roundup herbicide, Arsenal Applicators Concentrate and this supplement.



EPA Reg. No. 524-445

NOT REVIEWED
In Accordance with FR Notice 82-2
Based on Draft Labeling Dated 4/1/93

TANK MIXTURE OF ROUNDUP HERBICIDE AND ARSENAL APPLICATORS CONCENTRATE FOR FORESTRY CONIFER RELEASE IN THE STATES OF MAINE, NEW HAMPSHIRE AND VERMONT.

Keep out of reach of children.

WARNING!

In case of an emergency involving this product, call Collect, day or night, (314) 694-4000.

*Roundup is a registered trademark of Monsanto Company.

™Arsenal is a trademark of American Cyanamid Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

Apply a mixture of 2 quarts of this product and 1 to 2.5 fluid ounces of Arsenal Applicators Concentrate per acre as a release treatment for balsam fir and red spruce.

This mixture is recommended for controlling woody brush, deciduous trees and herbaceous weeds on sites regenerated with balsam fir and red spruce. Make applica-

tions only after formation of final resting buds on these conifers.

Use the higher recommended rate for sites with dense, tough-to-control woody brush and deciduous trees.

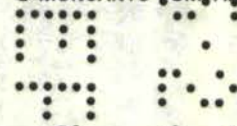
When using ground application equipment, use 10 to 60 gallons of spray solution per acre. For aerial application (helicopter only), use 5 to 15 gallons of spray solution per acre.

Injury may occur to conifers treated for release, especially where spray patterns overlap. Injury can be accentuated if applications are made when conifers are actively growing or are under stress.

Read and carefully observe the label claims, cautionary statements, and all information on the label for all products used.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.

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MAP-3515-4/29/93

Monsanto

Monsanto Company
Suite 1100
700 14th Street, N.W.
Washington, D.C. 20005

June 8, 1993

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor
Product Manager (25)

Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**
Submission of Final Printed Labels:
Supplemental Label for Pre-emergence Use in Sugarcane

Dear Sir:

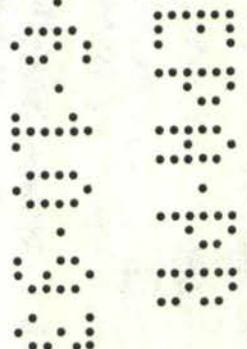
Monsanto is submitting final printed labels of a Roundup® herbicide supplemental label for your files. This supplemental label, which allows applications for weed control prior to the emergence of sugarcane, was approved by the Agency on May 26, 1993.

Enclosed are five (5) copies of the label (version MAP-3454-1/30/93).

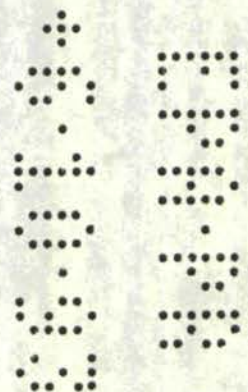
If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette
Sheila A. Schuette, Ph.D.
Registration Manager
(314) 694-7248



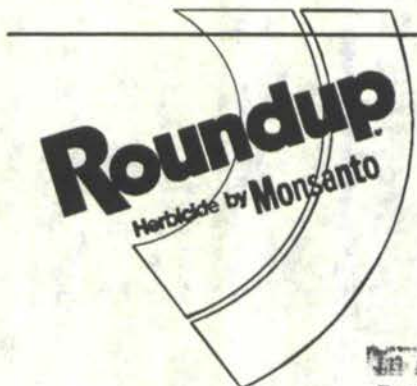
cc: R.P. Schneider
L.L. Gingerich
D.M. Fee-White



SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide and this supplement.



NOT REVIEWED
In Accordance with PR Notice 82-2.
Based on Draft Labeling Dated

5/26/93

EPA Reg. No. 524-445

FOR WEED CONTROL PRIOR TO THE EMERGENCE OF SUGARCANE

Keep out of reach of children.

WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

*Roundup is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup for essential product performance information.

RECOMMENDATIONS

This product may be applied prior to the emergence of plant sugarcane.

This product controls those emerged annual and perennial weeds listed in the label booklet for Roundup herbicide.

When making a preemergence application, do not exceed a rate of 3 quarts of Roundup per acre.

Refer to the "SUGARCANE" section of the Roundup label booklet for additional applications allowed in sugarcane.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup before using. These terms apply to this supplemental labeling

and if these terms are not acceptable, return the product unopened at once.

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ST. LOUIS, MISSOURI 63167

MAP-3454-1/30/93

SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide and this supplement.



EPA Reg. No. 524-445

FOR WEED CONTROL PRIOR TO THE EMERGENCE OF SUGARCANE

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RECOMMENDATIONS

This product may be applied prior to the emergence of plant sugarcane.

This product controls those emerged annual and perennial weeds listed in the label booklet for Roundup herbicide.

When making a preemergence application, do not exceed a rate of 3 quarts of Roundup per acre.

Refer to the "SUGARCANE" section of the Roundup label booklet for additional applications allowed in sugarcane.

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MAP-3454-1/30/93

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EPA Reg. No. 524-445

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RECOMMENDATIONS

This product may be applied prior to the emergence of plant sugarcane.

This product controls those emerged annual and perennial weeds listed in the label booklet for Roundup herbicide.

When making a preemergence application, do not exceed a rate of 3 quarts of Roundup per acre.

Refer to the "SUGARCANE" section of the Roundup label booklet for additional applications allowed in sugarcane.

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MAP-3454-1/30/93

SUPPLEMENTAL LABELING

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EPA Reg. No. 524-445

FOR WEED CONTROL PRIOR TO THE EMERGENCE OF SUGARCANE

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This product may be applied prior to the emergence of plant sugarcane.

This product controls those emerged annual and perennial weeds listed in the label booklet for Roundup herbicide.

When making a preemergence application, do not exceed a rate of 3 quarts of Roundup per acre.

Refer to the "SUGARCANE" section of the Roundup label booklet for additional applications allowed in sugarcane.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup before using. These terms apply to this supplemental labeling

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AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167

MAP 3454-1/30/93

SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup herbicide and this supplement.



EPA Reg. No. 524-445

FOR WEED CONTROL PRIOR TO THE EMERGENCE OF SUGARCANE

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RECOMMENDATIONS

This product may be applied prior to the emergence of plant sugarcane.

This product controls those emerged annual and perennial weeds listed in the label booklet for Roundup herbicide.

When making a preemergence application, do not exceed a rate of 3 quarts of Roundup per acre.

Refer to the "SUGARCANE" section of the Roundup label booklet for additional applications allowed in sugarcane.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup before using. These terms apply to this supplemental labeling

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AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167

MAP 3454-1/30/93

SUPPLEMENTAL LABELING

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EPA Reg. No. 524-445

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MAP-3454-1/30/93

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EPA Reg. No. 524-445

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ST. LOUIS, MISSOURI 63167

MAP 3454-1/30/93

(A) 	United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number 185047
	Application for Pesticide:		
	Section I		

1. Company/Product Number Monsanto / 524-445	2. EPA Product Manager Robert J. Taylor	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Roundup Herbicide	PM# 25	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., #1100 Washington, D.C. 20005 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section II	
<input type="checkbox"/> Amendment - Explain below	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated May 26, 1993
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Supplemental label for pre-emergence use in sugarcane.

Section III			
1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Type of Container <input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted.			
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container	4. Size(s) of Retail Container various	5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product	
6. Manner In Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input checked="" type="checkbox"/> Other (vinyl glued)	

Section IV			
1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name Dr. Russell P. Schneider	Title Agricultural Regulation Director	Telephone No. (Include Area Code) (202) 783-2460	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped) 
2. Signature 	3. Title Registration Manager		
4. Typed Name Sheila A. Schuette, Ph.D.	5. Date June 8, 1993		

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self explanatory.
6. EPA use only.

JUN 17 1993

Dr. Sheila A. Schuette
Monsanto Company
The Agricultural Group
700 14th Street, N.W. Suite #1100
Washington, D. C. 20005

Dear Dr. Schuette:

Subject: Roundup Herbicide (Add Pre-Harvest To Wheat)
EPA Registration No. 524-445
Your Application Dated May 7, 1993

The amendmet referred to above, submitted in connection with registration under FIFRA sec. 3(C)(7)(A), is acceptable provided that you:

1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) and sec. 4 when the Agency requires all registrants of similar products to submit such data.

2. Submit five (5) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

The acceptance of your label does not relieve you of any obligation to comply with the Worker Protection Standard (WPS). Under the WPS labeling regulations at 40 CFR Part 156, subpart K, 200 (c)(3), you are prohibited from distrubuting or selling any product within the scope of WPS requirements after April 21, 1994, without amended labeling accepted by the Agency.

Sincerely,

JKW
Robert J. Taylor
Product Manager 25
Fungicide-Herbicide Branch
Registration Division (H7505C)

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup and this supplement.

ACCEPTED
with COMMENTS
in EPA Letter Dated:

JUN 17 1993

ROUNDUP®

Herbicide by Monsanto

EPA Reg. No. 524-445

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.

524-445

FOR PREHARVEST APPLICATIONS IN WHEAT

Keep out of reach of children.

WARNING!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

®Roundup is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup herbicide for essential product performance information.

RECOMMENDATIONS

This product controls annual and perennial weeds listed on this label prior to the harvest of wheat. Make applications after the hard-dough stage of grain (30% or less grain moisture) and at least 7 days prior to harvest.

This product may be applied using either aerial or ground spray equipment. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for instructions for ground and aerial applications.

For control of quackgrass or suppression of Canada thistle, apply 1 quart of this product plus 0.5% nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre.

For suppression of field bindweed, apply 1 to 2 pints of this product plus 0.5 to 1.0 pounds active ingredient of 2,4-D plus 0.5 % nonionic surfactant by total spray volume in 3 to 10 gallons of water per acre.

DO NOT APPLY MORE THAN 1 QUART PER ACRE OF THIS PRODUCT FOR PREHARVEST APPLICATIONS.

For specific rates of application and instructions for control of other annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

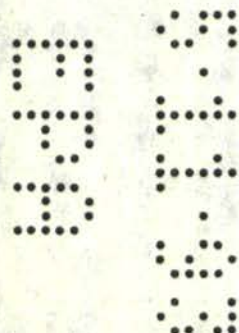
NOTE: It is not recommended that wheat grown for seed be treated because a reduction in germination or vigor may occur.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

©Monsanto Company 1992

MAP

MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167



(A)		United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration <input checked="" type="checkbox"/> Amendment <input type="checkbox"/> Other	OPP Identifier Number 185775
		Application for Pesticide:		

Section I

1. Company/Product Number <div style="text-align: right; margin-right: 50px;">524-445</div>	2. EPA Product Manager <div style="text-align: right;">Robert J. Taylor</div>	3. Proposed Classification <div style="text-align: right;"> <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted </div>
4. Company/Product (Name) <div style="text-align: right;">Roundup Herbicide</div>	PM# <div style="text-align: right;">25</div>	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company The Agricultural Group 700 14th Street, NW Suite 1100 Washington DC 20005 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

Section II

<input checked="" type="checkbox"/> Amendment - Explain below <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application. <input type="checkbox"/> Other - explain below.
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Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Roundup^R Herbicide (EPA Reg. No. 524-445)
 Supplemental Label for Preharvest Applications In Wheat
 EPA Pesticide Petition No. 0F3865
 EPA Food Additive Petition No. 2H5635

Section III

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Type of Container <input checked="" type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted.		If "Yes," Unit Package wgt. No. per container _____	If "Yes," Package wgt. No. per container _____
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) of Retail Container <div style="text-align: center;">various</div>	
5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product		6. Manner In Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Other (vinyl glued) <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled	

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name <div style="text-align: right;">Russell P. Schneider</div>	Title <div style="text-align: right;">Agricultural Regulation Director</div>	Telephone No. (Include Area Code) <div style="text-align: right;"> </div>	
Certification			
I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment both under applicable law.			
2. Signature <div style="text-align: right;"> </div>	3. Title <div style="text-align: right;">Registration Manager</div>	6. Date Application Received <div style="text-align: right;"> </div>	
4. Typed Name <div style="text-align: right;">Sheila A. Schuette</div>	5. Date <div style="text-align: right;"> </div>		

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2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
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5. **Location of Use Directions** - Indicate the location of the use directions for your product.
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SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.



United States Environmental Protection Agency
Washington, DC 20460

**CERTIFICATION WITH RESPECT TO
DATA COMPENSATION REQUIREMENTS**

Form Approved

OMB No. 2070-0108

Approval Expires 12-31-92

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestion for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, DC 20460; and to the Office of Management and Budget, Paperwork Reduction Project (2070-0106), Washington, DC 20503.

Please fill in blanks below.

Company Name Monsanto Company	Company Number 524 - 445
Chemical Name ROUNDUP HERBICIDES	EPA Chemical Number

I Certify that:

- For each study cited in support of registration or reregistration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) that is an exclusive use study, I am the original data submitter, or I have obtained the written permission of the original data submitter to cite that study.
- That for each study cited in support of registration or reregistration under FIFRA that is NOT an exclusive use study, I am the original data submitter, or I have obtained the written permission of the original data submitter, or I have notified in writing the company(ies) that submitted data I have cited and have offered to: (a) Pay compensation for those data in accordance with sections 3(c)(1)(D) and 3(c)(2)(D) of FIFRA; and (b) Commence negotiation to determine which data are subject to the compensation requirement of FIFRA and the amount of compensation due, if any. The companies I have notified are: (check one)

☐ All companies on the data submitters list for the active ingredient listed on this form (Cite-All Method or Cite-All Option under the Selective Method). (Also sign the General Offer to Pay below.)

☒ The companies who have submitted the studies listed on the back of this form or attached sheets, or indicated on the attached "Requirements Status and Registrants' Response Form,"
- That I have previously complied with section 3(c)(1)(D) of FIFRA for the studies I have cited in support of registration or reregistration under FIFRA.

Signature <i>Russ Schneider</i>	Date 5/7/93
Name and Title (Please Type or Print) Russell P. SCHNEIDER	

GENERAL OFFER TO PAY: I hereby offer and agree to pay compensation to other persons, with regard to the registration or reregistration of my products, to the extent required by FIFRA sections 3(c)(1)(D) and 3(c)(2)(D).

Signature <i>Russ Schneider</i>	Date 5/7/93
Name and Title (Please Type or Print) Russell P. SCHNEIDER As. Regulation Director	

Monsanto

Monsanto Company
Suite 1100
700 14th Street, N.W.
Washington, D.C. 20005

May 7, 1993

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor
Product Manager (25)

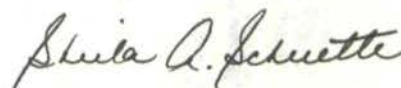
Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**
Supplemental Label for Preharvest Applications in Wheat
EPA Pesticide Petition No. 0F3865
EPA Food Additive Petition No. 2H5635

Dear Sir:

On February 28, 1992, Monsanto submitted a proposed label booklet for Roundup Herbicide that contained a revised section for applications made preharvest to wheat. The proposed tolerances necessary to obtain this use were published recently (May 5, 1993 / 58 FR 26725) and we expect that the tolerances will be established on June 4, 1993. Since the harvest of wheat will begin shortly thereafter, we will not have sufficient time to produce a complete label booklet with the new use. Therefore, we are submitting five (5) copies of a supplemental label for Agency review and approval.

Monsanto requests that the Agency approve and stamp the enclosed supplemental label so that it becomes effective as soon as the necessary tolerances on wheat grain, wheat straw and wheat milling fractions (except flour) are established. If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.
Registration Manager
(314) 694-7248

SECTION III

GLYPHOSATE 40 CFR, PART 158 DATA LIST

40 CFR 158.120	DATA	EPA	SUBMISSION	DOCUMENT	OWNER	AUTHORIZATION
STUDY DESCRIPTION	REQ'D	REFERENCE	DATE	NUMBER		
PRODUCT IDENTITY:						
61-1 PRODUCT IDENTITY & DISCLOSURE OF INGREDIENTS (MP)	+	263795	06/30/86		Monsanto	
61-1 PRODUCT IDENTITY & DISCLOSURE OF INGREDIENTS (EP)	+		11/15/89	R.D. 964	Monsanto	
61-2 DESCRIPTION OF BEGINNING MATERIALS AND MANUFACTURING PROCESS (MP)	+	263795	06/30/86		Monsanto	
61-2 DESCRIPTION OF BEGINNING MATERIALS AND MANUFACTURING PROCESS (EP)	+		11/15/89	R.D. 964	Monsanto	
61-2 DISCUSSION OF FORMATION OF IMPURITIES (MP)	+	096177	06/01/76		Monsanto	
61-3 DISCUSSION OF FORMATION OF IMPURITIES (EP)	+		11/15/89	R.D. 964	Monsanto	
ANALYSIS AND CERTIFICATION OF PRODUCT INGREDIENTS:						
62-1 PRELIMINARY ANALYSIS (MP)	+	096177	06/01/76		Monsanto	
62-1 PRELIMINARY ANALYSIS (EP)	+		11/15/89	R.D. 964	Monsanto	
62-2 CERTIFICATION OF LIMITS (MP)	+	263795	06/30/86		Monsanto	
62-2 CERTIFICATION OF LIMITS (EP)	+		11/15/89	R.D. 964	Monsanto	
62-3 ANALYTICAL METHODS FOR ENFORCEMENT OF LIMITS (MP)	+	263795	06/30/86		Monsanto	
62-3 ANALYTICAL METHODS FOR ENFORCEMENT OF LIMITS (EP)	+		11/15/89	R.D. 964	Monsanto	
PHYSICAL AND CHEMICAL CHARACTERISTICS:						
63-2 COLOR (MP & TGAI)	+	263795	06/30/86		Monsanto	
63-2 COLOR (EP)	+		11/15/89	R.D. 964	Monsanto	
63-3 PHYSICAL STATE (MP & TGAI)	+	263795	06/30/86		Monsanto	
63-3 PHYSICAL STATE (EP)	+		11/15/89	R.D. 964	Monsanto	
63-4 ODOR (MP & TGAI)	+	263795	06/30/86		Monsanto	
63-4 ODOR (EP)	+		11/15/89	R.D. 964	Monsanto	
63-5 MELTING POINT (TGAI)	+	096177	06/01/76		Monsanto	
63-6 BOILING POINT (TGAI)	NR					
63-7 DENSITY, BULK DENSITY, OR SPECIFIC GRAVITY (MP & TGAI)	+	263795	06/30/86		Monsanto	
63-7 DENSITY, BULK DENSITY, OR SPECIFIC GRAVITY (EP)			11/15/89	R.D. 964	Monsanto	

GLYPHOSATE
EPA Reg. No. 524-

40 CFR 158.120 STUDY DESCRIPTION	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
PHYSICAL AND CHEMICAL CHARACTERISTICS (cont'd)						
63-8 SOLUBILITY (TGAI OR PAI)	+	234109	06/05/78		Monsanto	
63-9 VAPOR PRESSURE (TGAI OR PAI)	+	234109	06/05/78		Monsanto	
63-10 DISSOCIATION CONSTANT (TGAI OR PAI)	+	231886	09/16/77		Monsanto	
63-11 OCTANOL/WATER PARTITION COEFFICIENT (PAI)	+	234109	06/05/78		Monsanto	
63-12 pH (MP & TGAI)	+	263795	06/30/86		Monsanto	
63-12 pH (EP)	+		11/15/89	R.D. 964	Monsanto	
63-13 STABILITY (TGAI)	+	263795	06/30/86		Monsanto	
63-14 OXIDIZING OR REDUCING ACTION (MP)	+	263795	06/30/86		Monsanto	
63-14 OXIDIZING OR REDUCING ACTION (EP)	+		11/15/89	R.D. 964	Monsanto	
63-15 FLAMMABILITY (MP)	+	263795	06/30/86		Monsanto	
63-15 FLAMMABILITY (EP)	+		11/15/89	R.D. 964	Monsanto	
63-16 EXPLODABILITY (MP)	NR					
63-16 EXPLODABILITY (EP)	+		11/15/89	R.D. 964	Monsanto	
63-17 STORAGE STABILITY (MP)	+	254433	07/30/84		Monsanto	
63-17 STORAGE STABILITY (EP)	+		11/15/89	R.D. 964	Monsanto	
63-18 VISCOSITY (MP)	NR					
63-18 VISCOSITY (EP)	+		11/15/89	R.D. 964	Monsanto	
63-19 MISCIBILITY (MP)	NR					
63-19 MISCIBILITY (EP)	NR					
63-20 CORROSION CHARACTERISTICS (MP)	+	263795	06/30/86		Monsanto	
63-20 CORROSION CHARACTERISTICS (EP)	+		11/15/89	R.D. 964	Monsanto	
63-21 DIELECTRIC BREAKDOWN VOLTAGE (EP)	NR					
64-1 SUBMITTAL OF SAMPLES (PAI)	+				Monsanto	

NR = Not Required - See Explanation Sheet

01600052

COMMENTS
40 CFR 158.120

The data requirements for pesticide registration (40 CFR 158) was published in the Federal Register on October 24, 1984.

Shortly thereafter, Monsanto has been developing a new product chemistry section that will comply with the requirements as listed in Part 158. The final product chemistry data package was submitted on June 30, 1986, and assigned the accession number 263795 by the Agency.

Monsanto awaits review and analysis by the Agency.

63-17 Storage Stability (EP)

This Storage Stability data gap does not impact any risk/hazard assessment of the product, and it is specific to our formulation. Accelerated aging at 50° and 60°C was conducted with no loss in assay of MON-20047 observed. Monsanto will submit a 12 month real time storage stability study after the container of commerce is selected.

01707-0052

Explanation of Data Not
Required to Support Registrations

40 CFR 158.120 Product Chemistry

63-6 Boiling Point (TGAI)

Data is required only if the technical material is a liquid at room temperature. Glyphosate is a solid.

63-16

Explodability (MP)

Glyphosate is a modified amino acid, and amino acids as a class of chemicals are not considered to be explosive. Glyphosate is not explosive.

63-18

Viscosity (MP)

Data is required if the material is a liquid. Glyphosate is a solid.

63-19 Miscibility (MP)

Data is required if the material is an emulsifiable liquid. Glyphosate is a water-soluble solid.

63-19 Miscibility (EP)

Data is required if the product is an emulsifiable liquid. MON-20047 is a ready-to-use liquid, not to be diluted.

63-21 Dielectric Breakdown Voltage (EP)

Data is required for liquid products that are used around electrical equipment. When MON-20047 is applied as a herbicide there is virtually no circumstance where it would be in contact with electric equipment.

018070052

40 CFR 158.135 STUDY DESCRIPTION	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
ACUTE TESTING:						
81-1 ORAL LD ₅₀ - RAT (MP & TGAI)	+	241301	10/02/79		Monsanto	
81-1 ORAL LD ₅₀ - RAT (EP)	+		11/15/89	R.D. 964	Monsanto	
81-2 DERMAL LD ₅₀ (MP & TGAI)	+	241301	10/02/79		Monsanto	
81-2 DERMAL LD ₅₀ (EP)	+		11/15/89	R.D. 964	Monsanto	
81-3 INHALATION LC ₅₀ - RAT (MP & TGAI)			10/02/79		Monsanto	
81-3 INHALATION LC ₅₀ - RAT (EP)	+		11/15/89	R.D. 964		
81-4 PRIMARY EYE IRRITATION - RABBIT (MP)	+	241301	10/02/79		Monsanto	
81-4 PRIMARY EYE IRRITATION - RABBIT (EP)	+		11/15/89	R.D. 964	Monsanto	
81-5 PRIMARY DERMAL IRRITATION (MP)	+	241301	11/15/89	R.D. 964	Monsanto	
81-5 PRIMARY DERMAL IRRITATION (EP)	+		11/30/88		Monsanto	
81-6 DERMAL SENSITIZATION (MP)	NR					
81-6 DERMAL SENSITIZATION (EP)	+		11/15/89	R.D. 964	Monsanto	
81-7 ACUTE DELAYED NEURO-TOXICITY - HEN (TGAI)	NR					
SUBCHRONIC TESTING:						
82-1 90-DAY FEEDING - RODENT (TGAI)	+	242799	05/29/80		Monsanto	
82-1 90-DAY FEEDING - NONRODENT (TGAI)	+	094161	07/12/74		Monsanto	
82-2 21-DAY DERMAL (TGAI)	+	247188	03/22/82		Monsanto	
82-2 21-DAY DERMAL (EP)	+	094176	07/12/74		Monsanto	
82-3 90-DAY DERMAL (TGAI)	NR					
82-4 90-DAY INHALATION - RAT (TGAI)	NR					

019070052

40 CFR 158.135 STUDY DESCRIPTION	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
SUBCHRONIC TESTING (cont'd)						
82-5 90-DAY NEUROTOXICITY - HEN (TGAI)	NR					
82-5 90-DAY NEUROTOXICITY - MAMMAL (TGAI)	NR					
CHRONIC TESTING:						
83-1 CHRONIC FEEDING - RODENT (TGAI)	+	246617 <u>thru</u> 246621	01/07/82		Monsanto	
83-1 CHRONIC FEEDING - NONRODENT (TGAI)	+	094161	07/12/74		Monsanto	
83-2 ONCOGENICITY STUDY - RAT (TGAI)	+	246617 <u>thru</u> 246621	01/07/82		Monsanto	
83-2 ONCOGENICITY STUDY - MOUSE (TGAI)	+	251007 <u>thru</u> 251014	08/08/83		Monsanto	
83-3 TERATOLOGY - SPECIES #1 (TGAI)	+	242516	05/13/80		Monsanto	
83-3 TERATOLOGY - SPECIES #2 (TGAI)	+	242516	05/13/80		Monsanto	
83-4 REPRODUCTION, 2-GENERATION (TGAI)	+	247793	07/31/81		Monsanto	
MUTAGENICITY TESTING:						
84-2 GENE MUTATION (TGAI)	+	238233 251737 and 252487	04/20/79 11/04/83		Monsanto Monsanto	

02000052

40 CFR 158.135 STUDY DESCRIPTION	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
MUTAGENICITY TESTING (cont'd)						
84-2 CHROMOSOMAL ABERRATION (TGAI)	+	242516 251737	05/13/80 11/04/83		Monsanto Monsanto	
84-4 OTHER MECHANISMS OF MUTAGENICITY (TGAI)	+	238233 251737	04/20/79 11/04/83		Monsanto Monsanto	
SPECIAL TESTING:						
85-1 GENERAL METABOLISM (PAIRA)	+	093849 093851 094166 40767101-02	11/12/73 11/12/73 07/12/74 08/11/88		Monsanto Monsanto Monsanto Monsanto	
85-2 DERMAL PENETRATION	NR					
SPECIAL REQUIREMENT:						
86-1 DOMESTIC ANIMAL SAFETY	NR					

NR = Not Required - See Explanation Sheet

021070052

Explanation of Data Not
Required to Support Registrations

40 CFR 158.135 Hazard Evaluation: Humans and
Domestic Animals

81-6

Acute Dermal Sensitization (MP)

Data is required if repeated contact with human skin is expected.
Glyphosate is not used in a manner where such contact is likely.

81-7

Acute Delayed Neurotoxicity - Hen (TGAI)

Not required unless test material is an organophosphate, or a metabolite or degradation product which causes acetyl cholinesterase depression or is structurally related to a substance that causes delayed neurotoxicity.
Glyphosate does not trigger this requirement.

82-3

Subchronic 90-Day Dermal (TGAI)

Data is required if use involves purposeful dermal application to, or prolonged exposure of, human skin; or if pesticidal use will involve purposeful application to the human skin or will result in comparable human exposure to the product (e.g., swimming pool algaecides, pesticides for impregnating clothing) and if either of the following criteria are met:

- i) Data from a subchronic oral study are not required; or
- ii) The active ingredient of the product is known or expected to be metabolized differently by the dermal route of exposure than by the oral route, and a metabolite of the active ingredient is the toxic moiety.

Glyphosate does not trigger this requirement.

022070052

Explanation of Data Not
Required to Support Registrations

40 CFR 158.135 Hazard Evaluation: Humans and
Domestic Animals (continued)

- 82-4 Subchronic 90-Day Inhalation - Rat (TGAI)
Data is required if the use may result in repeated inhalation exposure at a concentration likely to be toxic. A test with duration of 21 days is required if pesticide is used on tobacco. Glyphosate is not sufficiently toxic to warrant this testing.
- 82-5 Subchronic 90-Day Neurotoxicity - Hen (TGAI)
Data is required if acute delayed neurotoxicity test showed neuropathy or neurotoxicity or if closely related structurally to a compound which can induce these effects. Glyphosate does not cause acute neurotoxicity.
- 82-5 Subchronic 90-Day Neurotoxicity - Mammal (TGAI)
Data is required if acute oral, dermal or inhalation studies showed neuropathy or neurotoxicity.
Glyphosate does not trigger this testing.
- 86-1 Domestic Animal Safety
Required on a case-by-case basis. The known properties of glyphosate and the registered uses have not warranted this testing.

0230F0052

40 CFR 158.145

STUDY DESCRIPTION

WILDLIFE AND AQUATIC ORGANISMS

AVIAN AND MAMMALIAN TESTING:

STUDY DESCRIPTION	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
71-1 AVIAN ORAL LD (TGAI)	+	234395	3/1/78		Monsanto	
71-2 AVIAN DIETARY LC (TGAI)	+	094171	7/12/74		Monsanto	
71-3 WILD MAMMAL TOXICITY (TGAI)	NR					
71-4 AVIAN REPRODUCTION (TGAI)	+	235924	11/13/78		Monsanto	
71-5 SIMULATED AND ACTUAL FIELD TESTING - MAMMALS AND BIRDS (TEP)	NR					

AQUATIC ORGANISM TESTING:

72-1 FRESHWATER FISH LC (TGAI)		094171	7/12/74		Monsanto	
		234395	3/1/78		Monsanto	
	+	097661	11/28/78		Monsanto	
72-2 ACUTE LD FRESHWATER INVERTEBRATES (TGAI)	+	097661	11/28/78		Monsanto	
72-3 ACUTE LC ESTUARINE AND MARINE ORGANISMS (TGAI)		097661	11/28/78		Monsanto	
	+	094171	7/12/74		Monsanto	
72-4 FISH EARLY LIFE STAGE AND AQUATIC INVERTE- BRATE LIFE-CYCLE (TGAI)	+	249160	12/20/82		Monsanto	
72-5 FISH: LIFE-CYCLE (TGAI)	+	097759	12/22/78		Monsanto	

024070052

40 CFR 158.145 STUDY DESCRIPTION	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
WILDLIFE AND AQUATIC ORGANISMS						
AQUATIC ORGANISM TESTING: (CONT.)						
72-6 AQUATIC ORGANISM ACCUMULATION (TGAI, PAI or DP)	+	097762 094171	12/22/78 7/12/74		Monsanto Monsanto	
72-7 SIMULATED OR ACTUAL FIELD TESTING - AQUATIC ORGANISMS (TEP)		NR				

NR = Not Required - See Explanation Sheet

0250F0052

Explanation of Data Not
Required to Support Registrations

40 CFR 158.145 Hazard Evaluation: Wildlife
and Aquatic Organisms

- 71-3 Wild Mammal Toxicity (TGAI)
Tests are required on a case-by-case basis depending on the results of lower tier studies such as acute and subacute testing, intended use pattern, and pertinent environmental fate characteristics. Results from other glyphosate studies have not triggered this requirement.
- 71-5 Simulated and Actual Field Testing - Mammals and Birds (TEP)
Tests are required on a case-by-case basis depending on the results of lower tier studies such as acute and subacute testing, intended use pattern, and pertinent environmental fate characteristics. Results from other glyphosate studies have not triggered this requirement.
- 72-7 Simulated or Actual Field Testing - Aquatic Organisms (TEP)
Results of tier one and tier two studies with Roundup and glyphosate demonstrate that these materials have a low level of toxicity to aquatic species. Results from other studies have not triggered this requirement.

0260F0052

40 CFR 158.150 Hazard Evaluation: Nontarget Plants

Monsanto has conducted extensive testing on the phytotoxicity of glyphosate and the various product formulations which include glyphosate. It has been determined that glyphosate is essentially non-selective in its herbicidal effects when it is applied topically to green vegetation. However, it is tightly absorbed to soil components and is inactive as a soil applied herbicide.

Based on this information, glyphosate should be considered potentially injurious to any green plants that it contacts, and appropriate good application practices should be followed when using glyphosate products.

Although glyphosate is metabolized by soil microorganisms, there are no observations where the presence of glyphosate has any effect on the natural populations of soil microorganisms.

0270-0052

GLYPHOSATE
EPA Reg. No. 524-

40 CFR 158.155	NONTARGET INSECT	DATA	REFERENCE	SUBMISSION	DOCUMENT		
STUDY DESCRIPTION		REQ'D	NUMBER	DATE	NUMBER	OWNER	AUTHORIZATION

NONTARGET INSECT TESTING - POLLINATORS:

141-1	HONEY BEE ACUTE						
	CONTACT LD (TGAI)	+	094171	7/12/74		Monsanto	

(NOTE: No other requirements under 40 CFR 158.155 are required for this product)

028070052

GLYPHOSATE
EPA Reg. No. 524-

40 CFR 158.140		EPA		SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
STUDY DESCRIPTION	EXPOSURE/REENTRY	DATA REQ'D	REFERENCE NUMBER				
132-1	FOLIAR DISSIPATION (TEP)		NR				
132-1	SOIL DISSIPATION (TEP)		NR				
133-3	DERMAL EXPOSURE (TEP)		NR				
133-4	INHALATION EXPOSURE (TEP)		NR				

NR = Not Required - See Explanation Sheet

02900052

Explanation of Data Not
Required to Support Registrations

40 CFR 158.140 Exposure/Reentry

132-1	Foliar Dissipation (TEP)
132-1	Soil Dissipation (TEP)
133-3	Dermal Exposure (TEP)
133-4	Inhalation Exposure (TEP)

MON-20047 herbicide (glyphosate) is not applied to growing crops or to soil. It is applied to undesirable grass & broadleaf weeds to control or otherwise mitigate their growth or competition with turf or ornamentals. It is unlikely that people would contact such treated vegetation on a regular or extended basis.

Based on the known toxicity of glyphosate and MON-20047 no reentry restrictions have been required and no additional dermal or inhalation studies have been requested.

030070052

40 CFR 158.130 STUDY DESCRIPTION	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
DEGRADATION STUDIES - LAB:						
161-1 HYDROLYSIS (TGAI or PAIRA)	+	234109	06/05/78		Monsanto	
PHOTODEGRADATION:						
161-2 IN WATER (TGAI or PAIRA)	+	095789	07/12/74		Monsanto	
161-3 ON SOIL (TGAI or PAIRA)	+	095789	07/12/74		Monsanto	
161-4 IN AIR (TGAI or PAIRA)	NR					
METABOLISM STUDIES - LAB:						
162-1 AEROBIC SOIL (TGAI or PAIRA)	+	095789	07/12/74		Monsanto	
		095790	07/12/74		Monsanto	
162-2 ANAEROBIC SOIL (TGAI or PAIRA)	+	095789	07/12/74		Monsanto	
162-3 ANAEROBIC AQUATIC (TGAI or PAIRA)	+	234109	06/05/78		Monsanto	
162-4 AEROBIC AQUATIC (TGAI or PAIRA)	+	234109	06/05/78		Monsanto	
MOBILITY STUDIES:						
163-1 LEACHING (ADSORPTION/ DESORPTION) (TGAI or PAIRA)	+	234108	06/05/78		Monsanto	
		234109	06/05/78		Monsanto	
		095789	07/12/74		Monsanto	
		095790	07/12/74		Monsanto	
163-2 VOLATILITY (LAB) (TEP)	+	234109	06/05/78		Monsanto	
163-3 VOLATILITY (FIELD) (TEP)	NR					

0310F0052

GLYPHOSATE
EPA Reg. No. 524-

40 CFR 158.130 STUDY DESCRIPTION	DATA REQUIRED	EPA REFERENCE NUMBER	SUBMISSION DATE	OWNER	AUTHORIZATION
DISSIPATION STUDIES - FIELD: (cont'd)					
164-1 SOIL (TEP)	+	095789	07/12/74	Monsanto	
		095790	07/12/74	Monsanto	
164-2 AQUATIC (SEDIMENT (TEP)	+	095790	07/12/74	Monsanto	
164-3 FORESTRY (TEP)	+	246006	09/29/81	Monsanto	
		246658	02/01/82	Monsanto	
		250513	06/17/83	Monsanto	
		251864	11/18/83	Monsanto	
164-4 COMBINATION & TANK MIXES	NR				
164-5 SOIL, LONG-TERM (TEP)	NR				
ACCUMULATION STUDIES:					
165-1 ROTATIONAL CROPS (CONFINED) (PAIRA)	+	095790	07/12/74	Monsanto	
165-2 ROTATIONAL CROPS (FIELD) (TEP)	+	096398	10/14/77	Monsanto	
165-3 IRRIGATED CROPS (TEP)	+	094684	09/25/75	Monsanto	
165-4 IN FISH (TGAI or PAIRA)	+	097762	12/22/78	Monsanto	
		Appendix E	—	Monsanto	
165-5 IN AQUATIC NON-TARGET ORGANISMS (TEP)	+	Appendix 094684	— 09/25/75	Monsanto Monsanto	

NR = Not Required - See Explanation Sheet

03207-0052

Explanation of Data Not
Required to Support Registrations

40 CFR 158.130 Environmental Fate

- 161-4 Photodegradation: In Air (TGAI)
Glyphosate is not applied as an aerosol or mist, and is not applied over orchard or vegetable crops.
- 163-3 Volatility: Field (TGAI)
Glyphosate is essentially non-volatile and, therefore, does not require field volatility testing.
- 164-4 Field Dissipation: Combination and Tank Mixes
The Agency has not requested any specific studies. However, glyphosate tank mix residue data are available under the 40 CFR 158.125 Residue Data section of this data package.
- 164-5 Long-Term Soil Dissipation (TEP)
Glyphosate has a sufficiently short half-life in soil that this study has not been required.

033070052

EPA

40 CFR 158.125 STUDY DESCRIPTION	DATA REQ'D	REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
RESIDUE TESTING						
171-2 CHEMICAL IDENTITY (TGAI)	+	096177	06/01/76		Monsanto	
171-3 DIRECTIONS FOR USE	+	(524-308)	---		Monsanto	
NATURE OF THE RESIDUE:						
171-4 PLANTS (PAIRA)	+	Appendix A	---		Monsanto	
171-4 LIVESTOCK (PAIRA (PM)	+	Appendix B	---		Monsanto	
171-4 RESIDUE ANALYTICAL	+	096177	06/01/76		Monsanto	
METHOD (TGAI & METABOLITES)		229787	05/10/77		Monsanto	
		094166	12/23/75		Monsanto	

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APPENDIX A

40 CFR 158.125

Study Description

Nature of Residue:
171-4 Plants (PAIRA)

40 CFR 158.125 Study Description		EPA Reference Number	Submission Date	MONSANTO COMPANY Data Owner		Authorization
Nature of Residue: 171-4 Plants (PAIRA)						
Corn						
	094181	12/23/75	Monsanto			
	094164	12/23/75	Monsanto			
	094165	12/23/75	Monsanto			
Wheat						
	094181	12/23/75	Monsanto			
	094164	12/23/75	Monsanto			
	094165	12/23/75	Monsanto			
Soybeans						
	094181	12/23/75	Monsanto			
	094164	12/23/75	Monsanto			
	094165	12/23/75	Monsanto			
Cotton						
	094181	12/23/75	Monsanto			
	094164	12/23/75	Monsanto			
	094165	12/23/75	Monsanto			
Grapes						
	094264	10/04/74	Monsanto			
Citrus						
	094958	01/19/76	Monsanto			
Coffee						
	096177	06/01/76	Monsanto			
Sugarcane						
	095141	03/01/76	Monsanto			
Pome fruit						
	095271	09/01/76	Monsanto			
Forage grasses & Legumes						
	097094	04/28/78	Monsanto			

0350-0052

APPENDIX A

40 CFR 158.125

Study Description

Nature of Residue:
171-4 Plants (PAIRA)

EPA	Reference	Submission	Data	Authorization
Number	Date	Owner		
096684	12/09/77	Monsanto		
095663	11/30/76	Monsanto		
095704	12/31/76	Monsanto		
096398	10/15/77	Monsanto		

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COMPANY

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INFORMATION OF
MONSANTO CO., ANY

N-Nitrosoglyphosate

229787

05/10/77

Monsanto

APPENDIX B

40 CFR 158.125
Study Description

EPA

Reference
Number

Submission
Date

Data
Owner

Authorization

Nature of Residue:
171-4 Livestock (PAIRA)

Meat, Milk & Eggs

094180

12/23/75

Monsanto

Rabbit

094166

12/23/75

Monsanto

Rat

094166

12/23/75

Monsanto

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OTHERWISE CONFIDENTIAL
INFORMATION OF
MONSANTO COMPANY

N-Nitroglyphosate

229787
233913

05/10/77
05/12/78

Monsanto
Monsanto

APPENDIX E

40 CFR 158.130
Study Description

Accumulation Studies:
165-4 Fish (PAIRA)

	EPA Reference Number	Submission Date	Data Owner	Authorization
Rainbow Trout	097762	12/22/78	Monsanto	
Largemouth Bass	097762	12/22/78	Monsanto	
Channel Catfish	097762 246876	12/22/78 02/26/82	Monsanto Monsanto	
Bluegill Sunfish	094171	12/23/75	Monsanto	
Crayfish	097762 071696	06/20/83 12/22/78 06/15/83	Monsanto Monsanto Monsanto	
Mollusks	097762 071695	06/20/83 12/22/78 06/15/83	Monsanto Monsanto Monsanto	

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INFORMATION
MONSANTO COMPANY

SECTION IV
REGISTRATION REQUEST
RESIDUE DATA

40 CFR 158.125 STUDY DESCRIPTION	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
MAGNITUDE OF THE RESIDUE:						
171-4 CROP FIELD TRIALS (TEP)	+	Appendix C	---		Monsanto	
171-4 PROCESSED FOOD/FEED (EP)	+	094958	01/19/76		Monsanto	
		095972	07/21/76		Monsanto	
171-4 MEAT/MILK/POULTRY/EGGS (TGAI or PM)	+	094180	12/23/75		Monsanto	
		245642	09/30/84		Monsanto	
171-4 POTABLE WATER (EP)	+	Appendix D	---		Monsanto/Public	
171-4 FISH (EP)	+	097762	12/22/78		Monsanto	
171-4 IRRIGATED CROPS (EP)	+	Appendix C	---		Monsanto	
171-4 FOOD HANDLING (EP)	NR					
171-5 REDUCTION OF RESIDUE	NR					
171-6 PROPOSED TOLERANCES	+	Appendix F	---		Monsanto	
171-7 REASONABLE GROUNDS IN SUPPORT OF THE PETITION	+				Monsanto	

NR = Not Required - See Explanation Sheet

Reasonable grounds in support of the petition are submitted with each letter of application and in each petition/data submission summary.

0400F0052

Explanation of Data Not
Required to Support Registrations

40 CFR 158.125 Residue Data

171-4

Food Handling (EP)

Data on residues in food or feed in food handling establishments are required whenever a pesticide is to be used in food/feed handling establishments. MON-20047 is not used in such establishments.

171-5

Reduction of Residue

Reduction of residue is required when the assumption of tolerance level residues results in an unsafe level of exposure. MON-20047 is not intended for use in food crops; therefore residues will not occur in food or feed or water.

04100052

APPENDIX C

40 CFR 158.125
Study Description

EPA

Reference
NumberSubmission
DateData
Owner

Authorization

Magnitude of Residue:
171-4 Crop Field Trials (TEP)

Corn	095787	07/12/74	Monsanto
	232683	12/12/77	Monsanto
	232519	12/09/77	Monsanto
	222755	12/19/75	Monsanto
	238167	03/30/79	Monsanto
Wheat	095787	07/12/74	Monsanto
	071296	12/02/82	Monsanto
Soybeans	095787	07/12/74	Monsanto
	096191	06/17/77	Monsanto
	232680	12/12/77	Monsanto
	222753	02/19/73	Monsanto
Oats	095787	07/12/74	Monsanto
Rice	095787	07/12/74	Monsanto
Barley	095787	07/12/74	Monsanto
Sorghum (Milo)	095787	07/12/74	Monsanto
	247659	06/04/82	Monsanto
Grapes	094260	10/04/74	Monsanto
Raisins	095703	12/31/76	Monsanto
Citrus	094957	01/19/76	Monsanto
	094958	01/19/76	Monsanto

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COMPANY

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MONSANTO COMPANY

APPENDIX C

40 CFR 158.125

Study Description

Magnitude of Residue:

171-4 Crop Field Trials (TEP)

Study Description	EPA Reference Number	Submission Date	Data Owner	Authorization
Cotton	096191	06/17/77	Monsanto	
	099720	11/03/80	Monsanto	
	097166	05/17/76	Monsanto	
Coffee	096177	06/01/76	Monsanto	
Sugarcane	095141	03/01/76	Monsanto	
Palm Oil	224884	08/02/76	Monsanto	
Pome Fruit	095271	09/01/76	Monsanto	
Asparagus	096996	03/01/78	Monsanto	
Nut Crops	095633	11/30/76	Monsanto	
Alfalfa	095704	12/31/76	Monsanto	
Vegetable (grouping) (seed, pod, leafy, root)	096398	10/15/77	Monsanto	
Avocados	096631	11/15/77	Monsanto	
Sugarbeets	096684	12/09/77	Monsanto	
Potatoes	096684	12/09/77	Monsanto	

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OF MONSANTO COMPANY
40 CFR 158.125
Study Description

APPENDIX C

Page 3

Study Description	EPA Reference Number	Submission Date	Data Owner	Authorization
Magnitude of Residue: 171-4 Crop Field Trials (TEP)				
Forage Grasses	070083	05/08/81	Monsanto	
and Legumes	097094	04/28/78	Monsanto	
	099625	09/12/80	Monsanto	
Tea	245567	06/30/81	Monsanto	
Peanuts	099306	02/18/80	Monsanto	
Stone Fruit	097735	12/15/78	Monsanto	
Bananas	098332	06/14/79	Monsanto	
Plaintain	098332	06/14/79	Monsanto	
Olives	098332	06/14/79	Monsanto	
Coconut, Coconut Oil	247004	03/09/82	Monsanto	
Cranberries	099624	09/10/80	IR-4	
Guava		11/13/80	IR-4	
Papaya		11/13/80	IR-4	
Cucurbits (grouping)		02/22/83	IR-4	CONTAINS TRADE SECRET OR OTHERWISE CONFIDENTIAL INFORMATION OF
Vegetables (grouping)		05/11/83	IR-4	MONSANTO COMPANY

0440-00203

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OR OTHERWISE
CONFIDENTIAL INFORMATION
40 CFR 158.224
MONS INTO COMNAVY
Study Description

APPENDIX D

Study Description	EPA Reference Number	Submission Date	Data Owner	Authorization
Magnitude of Residue: 171-4 Potable Water (EP)				
Canals	094684 095356	09/25/75 09/25/75	Public Document ¹ Monsanto	
Flooded Levees	094684 095356	09/25/75 09/25/75	Monsanto Monsanto	
Ponds	094684 095356	09/25/75 09/25/75	Public Document ² Monsanto	
Potable Water Treatment	095356	09/25/75	Monsanto	
Ditchbank/Flowing Water	097660 097661	12/22/78 12/22/78	Monsanto Monsanto	
Shoreline/Impounded Water	097660 097661	12/22/78 12/22/78	Monsanto Monsanto	
Total Area/Impounded Water	097660 097661	12/22/78 12/22/78	Monsanto Monsanto	
Whole Cross-section/ Flowing Water	070170	06/29/81	Monsanto	

0450F0052

2/ R.D. Comes. USDA/ARS. Prosser, Washington
2/ R.D. Blackburn. USDA/ARS. Fort Lauderdale, Florida

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INFORMATION OF
MONSANTO COMPANY

JUN 17 1993

Dr. Sheila A. Schuette
Monsanto Company
The Agricultural Group
700 14th Street, N.W. Suite #1100
Washington, D. C. 20005

Dear Dr. Schuette:

Subject: Roundup Herbicide (Add Wiper Application To Wheat)
EPA Registration No. 524-445
Your Application Dated May 10, 1993

The amendmet referred to above, submitted in connection with registration under FIFRA sec. 3(C)(7)(A), is acceptable provided that you:

1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) and sec. 4 when the Agency requires all registrants of similar products to submit such data.

2. Submit five (5) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

The acceptance of your label does not relieve you of any obligation to comply with the Worker Protection Standard (WPS). Under the WPS labeling regulations at 40 CFR Part 156, subpart K, 200 (c)(3), you are prohibited from distrubuting or selling any product within the scope of WPS requirements after April 21, 1994, without amended labeling accepted by the Agency.

Sincerely,

Robert J. Taylor *View*
Product Manager 25
Fungicide-Herbicide Branch
Registration Division (H7505C)

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup and this supplement.

ACCEPTED
with COMMENTS
in EPA Letter Dated:

JUN 17 1993

ROUNDUP® Herbicide by Monsanto

EPA Reg. No. 524-445

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No. 524-445

WIPER APPLICATIONS FOR COMMON RYE IN WHEAT

Keep out of reach of children.

WARNING!

In case of an emergency involving this product, Call Collect, day or night,
(314) 694-4000.

®Roundup is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION", "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" and "SELECTIVE EQUIPMENT" sections of the label booklet for Roundup herbicide for essential product performance information.

RECOMMENDATIONS

This product controls common rye, or cereal rye, which is growing in wheat. Make applications with a rope wick or other wiper applicator.

Do not use roller applicators.

Applications may be made after common rye has headed and achieved maximum growth, when the rye is at least 6 inches above the wheat crop. Repeat applications may be needed to control plants that were not above the wheat at the time of the first application. Make the final application at least 35 days prior to harvest.

Mix 1 gallon of this product in 2 gallons of water to prepare a 33 percent solution.

Applications should be made when common rye plants are actively growing and free from dust or moisture (such as dew).

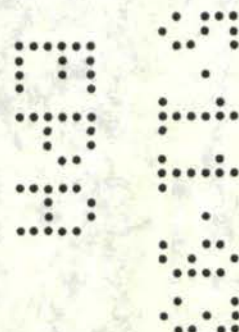
Do not permit herbicide solution to contact desirable vegetation.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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MAP

MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167



		United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460		Registration <input checked="" type="checkbox"/> Amendment <input type="checkbox"/> Other	OPP Identifier Number <div style="font-size: 24px; color: red;">185778</div>
Application for Pesticide:					
Section I					
1. Company/Product Number <div style="text-align: center;">524-445</div>		2. EPA Product Manager <div style="text-align: center;">Robert J. Taylor</div>		3. Proposed Classification <div style="display: flex; justify-content: space-around;"> <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted </div>	
4. Company/Product (Name) <div style="text-align: center;">Roundup® Herbicide</div>		PM# <div style="text-align: center;">25</div>			
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____			
Section II					
<input checked="" type="checkbox"/> Amendment - Explain below <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input type="checkbox"/> Notification - Explain below.		<input type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application. <input type="checkbox"/> Other - explain below.			
Explanation: Use additional page(s) if necessary. (For section I and Section II.) <div style="text-align: center; padding: 10px;"> Roundup Herbicide Supplemental label: Wiper applications for common rye in wheat </div>					
Section III					
1. Material This Product Will Be Packaged In:					
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Unit Package wgt. _____ No. per container _____	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Package wgt. _____ No. per container _____	2. Type of Container <input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____		
* Certification must be submitted.					
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) of Retail Container <div style="text-align: center;">various</div>		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product	
6. Manner In Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled		<input checked="" type="checkbox"/> Other (<u>vinyl glued</u>)			
Section IV					
1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name <div style="text-align: center;">Dr. Russell P. Schneider</div>		Title <div style="text-align: center;">Agricultural Regulation Director</div>		Telephone No. (Include Area Code) <div style="text-align: center;">(202) 786-2460</div>	
Certification					
I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					6. Date Application Received (Stamped) <div style="font-size: 24px; color: red;">209</div>
2. Signature 		3. Title <div style="text-align: center;">Registration Manager</div>			
4. Typed Name <div style="text-align: center;">Sheila A. Schuette, Ph.D.</div>		5. Date <div style="text-align: center;">May 10, 1993</div>			

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper or a mockup of the proposed label. If prepared as a mockup, it should be constructed in such a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. **Company/Product Number** - Insert your **Company Number**, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the **Product Number**.
2. **EPA Product Manager** - If known, fill in the name and PM number of the EPA Product Manager.
3. **Proposed Classification** - Specify the proposed classification of this product.
4. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. **Expedited Review** - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. **Subject of submission** - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
6. EPA Use Only.



**CERTIFICATION WITH RESPECT TO
DATA COMPENSATION REQUIREMENTS**

Form Approved

OMB No. 2070-0108

Approval Expires 12-31-92

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestion for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, DC 20460; and to the Office of Management and Budget, Paperwork Reduction Project (2070-0106), Washington, DC 20503.

Please fill in blanks below.

Company Name Monsanto Company	Company Number 524 - 445
Chemical Name Roundup Herbicide	EPA Chemical Number

Certify that:

1. For each study cited in support of registration or reregistration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) that is an exclusive use study, I am the original data submitter, or I have obtained the written permission of the original data submitter to cite that study.
2. That for each study cited in support of registration or reregistration under FIFRA that is NOT an exclusive use study, I am the original data submitter, or I have obtained the written permission of the original data submitter, or I have notified in writing the company(ies) that submitted data I have cited and have offered to: (a) Pay compensation for those data in accordance with sections 3(c)(1)(D) and 3(c)(2)(D) of FIFRA; and (b) Commence negotiation to determine which data are subject to the compensation requirement of FIFRA and the amount of compensation due, if any. The companies I have notified are: (check one)

☐ All companies on the data submitters list for the active ingredient listed on this form (Cite-All Method or Cite-All Option under the Selective Method). (Also sign the General Offer to Pay below.)

☒ The companies who have submitted the studies listed on the back of this form or attached sheets, or indicated on the attached "Requirements Status and Registrants' Response Form,"
3. That I have previously complied with section 3(c)(1)(D) of FIFRA for the studies I have cited in support of registration or reregistration under FIFRA.

Signature <i>Russel Schneider</i>	Date 5/10/93
Name and Title (Please Type or Print) RUSSELL P. SCHNEIDER Ag. Regulation Director	

GENERAL OFFER TO PAY: I hereby offer and agree to pay compensation to other persons, with regard to the registration or reregistration of my products, to the extent required by FIFRA sections 3(c)(1)(D) and 3(c)(2)(D).

Signature <i>Russel Schneider</i>	Date 5/10/93
Name and Title (Please Type or Print) RUSSELL P. SCHNEIDER As. Regulation Director	

Monsanto

Monsanto Company
Suite 1100
700 14th Street, N.W.
Washington, D.C. 20005

May 10, 1993

Office of Pesticide Programs - H7504C
Document Processing Desk
U.S. Environmental Protection Agency
Room 226A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Attention: Mr. Robert J. Taylor
Product Manager (25)

Subject: **Roundup® Herbicide (EPA Reg. No. 524-445)**
Supplemental Label: Wiper Applications for Common Rye in Wheat

Dear Sir:

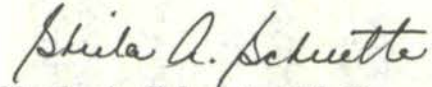
Enclosed for Agency review and approval are five (5) copies of a supplemental label that allows the use of Roundup herbicide with wiper applicators to control common rye in wheat. Various states in the Pacific Northwest have been granted specific exemptions for this use over the past several years under the provisions of Section 18 of FIFRA.

Residue data supporting this use were submitted previously by Monsanto (Accession Nos. 071296 and 073100), along with a petition to establish tolerances on wheat grain at 0.3 ppm, wheat straw at 0.4 ppm, and wheat milling fractions at 1.0 ppm (PP 3F2809 / FAP 5H5450). However, the Agency felt that additional residue data were needed before granting this use. Since this minor use did not warrant further expenditure, in 1991 Monsanto withdrew the tolerance request without prejudice to future filing in accordance with 40 CFR 180.0.

Recently, however, the Agency has proposed higher tolerances on wheat and wheat fractions resulting from the preharvest application of glyphosate (58 FR 26725). These proposed tolerances are 5.0 ppm on wheat grain, 85 ppm on wheat straw, and 20 ppm on wheat milling fractions (excluding flour). Monsanto believes that these proposed tolerances adequately cover any residues that would result from the wiper applicator use.

Monsanto requests that the Agency approve and stamp the enclosed supplemental label so that it becomes effective as soon as the necessary preharvest tolerances on wheat grain, wheat straw and wheat milling fractions (except flour) are established. If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,



Sheila A. Schuette, Ph.D.
Registration Manager
(314) 694-7248

cc: R.P. Schneider
J.A. Mills
D.M. Fee-White

JUN 17 1993

Dr. Sheila A. Schuette
Monsanto Company
The Agricultural Group
700 14th Street, N.W. Suite #1100
Washington, D. C. 20005

Dear Dr. Schuette:

Subject: Roundup Herbicide (Reduce PHI For Tree Nuts)
EPA Registration No. 524-445
Your Application Dated December 30, 1993

The amendmet referred to above, submitted in connection with registration under FIFRA sec. 3(C)(7)(A), is acceptable provided that you:

1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) and sec. 4 when the Agency requires all registrants of similar products to submit such data.

2. Submit five (5) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

The acceptance of your label does not relieve you of any obligation to comply with the Worker Protection Standard (WPS). Under the WPS labeling regulations at 40 CFR Part 156, subpart K, 200 (c)(3), you are prohibited from distrubuting or selling any product within the scope of WPS requirements after April 21, 1994, without amended labeling accepted by the Agency.

Sincerely,

Robert J. Taylor *JKW*
Product Manager 25
Fungicide-Herbicide Branch
Registration Division (H7505C)

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup and this supplement.

ROUNDUP®

Herbicide by Monsanto

EPA Reg. No. 524-445

ACCEPTED
with COMMENTS
in EPA Letter Dated:

JUN 17 1993

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.

524-445

FOR WEED CONTROL IN NUT CROPS UP TO THREE DAYS PRIOR TO HARVEST

Keep out of reach of children.

WARNING!

In case of an emergency involving this product, Call Collect, day or night,
(314) 694-4000.

®Roundup is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This supplemental label and the label booklet for Roundup herbicide must be in the possession of the user at the time of herbicide application.

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup for essential product performance information.

RECOMMENDATIONS

This product is recommended for weed control in established groves of almonds, beechnuts, Brazil nuts, butternuts, cashews, chestnuts, chinquapins, filberts (hazelnuts), hickory nuts, macademia nuts, pecans, black walnuts and English walnuts. Applications can be made with both boom equipment, CDA, shielded sprayers, hand-held and high-volume wands, lances, or orchard guns, or with wiper applicator equipment.

For specific rates of applications and instructions, see the "WEEDS CONTROLLED" and the "TREE AND VINE CROPS" sections of the Roundup label booklet.

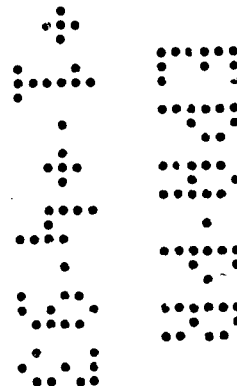
Allow a minimum of 3 days between last application and harvest.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

©Monsanto Company 1993

MAP

MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI 63167



SUBMISSION REVIEW RECORD				1. REGISTRATION NUMBER		CYCLE	2. DATE RECEIVED		
3. 3C10 PUBLICATION NECESSARY <input type="checkbox"/> YES <input type="checkbox"/> NO				4. PETITION NO.		5. RECEIVED PM TEAM			
6. METHOD OF SUPPORT <input type="checkbox"/> 2A <input type="checkbox"/> 2B <input type="checkbox"/> 2C				7. PRODUCT MANAGER		8. PROJECTED RETURN			
9. DATE PULLED		10. DATE PUBLISHED		11. ACTION TYPE		12. OUTGOING DATE			
REV. SEQ.	REVIEW TYPE CODE	REVIEW TYPE	REVIEWER CODE (Initials)	SIGNATURE OF REVIEWER	COM. MENT CODE	DATE REVIEW COMPLETED			
						MO	DAY	YR	
	A	REVIEWABILITY TEAM							
	B	PRODUCT MANAGER TEAM EFFICACY REVIEW							
	C	PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW							
	D	PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW							
	E	PRODUCT MANAGER TEAM RESUBMISSION REVIEW							
	F	PRODUCT MANAGER							
	G	INTERAGENCY REFERRAL							
	H	COST-BENEFIT REVIEW							
	I	PUBLIC COMMENTS REVIEW							
	J	EEE BRANCH INSECTICIDE EFFICACY							
	K	EEE BRANCH HERBICIDE EFFICACY							
	L	EEE BRANCH FUNGICIDE EFFICACY							
	M	EEE BRANCH RODENTICIDE EFFICACY							
	N	EEE BRANCH DISINFECTANT EFFICACY							
	O	CHEMISTRY BRANCH RESIDUE CHEMISTRY							
	P	EEE BRANCH ENVIRONMENTAL CHEMISTRY							
	Q	TOXICOLOGY BRANCH HUMAN SAFETY							
	R	EEE BRANCH ENVIRONMENTAL SAFETY							
	S								
	T								
PRODUCT MANAGER SIGNATURE				TYPE OF RESPONSE				CODE	

SUBMISSION REVIEW RECORD				1. REGISTRATION NUMBER		CYCLE	2. DATE RECEIVED		
3. 3C/D PUBLICATION NECESSARY				4. PETITION NO.		5. RECEIVED PM TEAM			
6. METHOD OF SUPPORT				7. PRODUCT MANAGER		NO.	8. PROJECTED RETURN		
9. DATE PULLED				10. DATE PUBLISHED		11. ACTION TYPE		CODE	12. OUTGOING DATE
13. REVIEW TYPE				14. REVIEWER CODE		15. SIGNATURE OF REVIEWER		16. DATE REVIEW COMPLETED	
17. REVIEW TYPE				18. REVIEWER CODE		19. SIGNATURE OF REVIEWER		20. DATE REVIEW COMPLETED	
A REVIEWABILITY TEAM									
B PRODUCT MANAGER TEAM EFFICACY REVIEW									
C PRODUCT MANAGER TEAM HUMAN SAFETY REVIEW									
D PRODUCT MANAGER TEAM ENVIRONMENTAL SAFETY REVIEW									
E PRODUCT MANAGER TEAM RESUBMISSION REVIEW									
F PRODUCT MANAGER						VXW NAC 061093			
G INTERAGENCY REFERRAL						PPN 2 F 4081 proposed			
H COST-BENEFIT REVIEW						5/4/93 final signed			
I PUBLIC COMMENTS REVIEW						by Carvett			
J EEE BRANCH INSECTICIDE EFFICACY									
K EEE BRANCH HERBICIDE EFFICACY									
L EEE BRANCH FUNGICIDE EFFICACY									
M EEE BRANCH RODENTICIDE EFFICACY									
N EEE BRANCH DISINFECTANT EFFICACY									
O CHEMISTRY BRANCH RESIDUE CHEMISTRY									
P EEE BRANCH ENVIRONMENTAL CHEMISTRY									
Q TOXICOLOGY BRANCH HUMAN SAFETY									
R EEE BRANCH ENVIRONMENTAL SAFETY									
S									
T									
PRODUCT MANAGER SIGNATURE				TYPE OF RESPONSE				CODE	

(A) United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	Application for Pesticide: <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;"> <input type="checkbox"/> Registration <input checked="" type="checkbox"/> Amendment <input type="checkbox"/> Other </div> <div> Registration Amendment Other </div> </div>	OPP Identifier Number <div style="font-size: 24pt; color: red; text-align: center;">168026</div>
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Section I

1. Company/Product Number <div style="text-align: center;">524-445</div>	2. EPA Product Manager <div style="text-align: center;">Robert J. Taylor</div>	3. Proposed Classification <div style="display: flex; justify-content: space-around;"> <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted </div>
4. Company/Product (Name) <div style="text-align: center;">Roundup Herbicide</div>	PM# <div style="text-align: center;">25</div>	
5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, D.C. 20005 <div style="margin-top: 10px;"> <input type="checkbox"/> Check if this is a new address </div>		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

Section II

<input type="checkbox"/> Amendment - Explain below <input checked="" type="checkbox"/> Resubmission in response to Agency letter dated <u>12/23/92</u> <input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application. <input type="checkbox"/> Other - explain below.
---	---

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Pesticide Petition No. ~~2~~ 2F4081: Submission of Revised Section F Glyphosate Tolerance Request and Revised Section B Use Directions for Roundup Herbicide

Section III

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Unit Package wgt. _____ No. per container _____	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes," Package wgt. _____ No. per container _____	2. Type of Container <div style="border: 1px solid black; padding: 2px;"> <input checked="" type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____ </div>
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) of Retail Container <div style="text-align: center;">various</div>	
5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product		6. Manner in Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled <input checked="" type="checkbox"/> Other (<u>vinyl glued</u>)	

*** Certification must be submitted.**

Section IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)			
Name <div style="text-align: center;">Russell P. Schneider, Ph.D.</div>	Title <div style="text-align: center;">Agricultural Regulation Director</div>	Telephone No. (Include Area Code) <div style="text-align: center;">(202) 783-2460</div>	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			
2. Signature 	3. Title <div style="text-align: center;">Senior Registration Specialist</div>	6. Date Application Received (Stamped) <div style="font-size: 24pt; text-align: center;">DEC 30 1992</div>	
4. Typed Name <div style="text-align: center;">Sheila A. Schuette, Ph.D.</div>	5. Date <div style="text-align: center;">Dec 30, 1992</div>		

Paperwork Reduction Act Notice and Instructions

Paperwork Reduction Act Notice

Public reporting burden for this collection of information is estimated to average of 0.85 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

Instructions

General

This form is to be used for all applications for new and amended registrations for pesticide products.

In order to process an application for new registration submitted on this form, the following material must accompany the application:

1. Offer to Pay Statement (EPA Form 8570-22, -23, or -24). (If not exempted by 40 CFR 162.9-1(b).)
2. Confidential Statement of Formula (EPA Form 8570-4).
3. Five copies of draft labeling.
4. Three copies of any data submitted.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8 1/2 x 11 inch paper or as a mockup of the proposed label. If prepared as a mockup it should be constructed in such a way as to facilitate storage in an 8 1/2 x 11 inch file. Mockup labels significantly smaller than 8 1/2 x 11 inches should be mounted on 8 1/2 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

Specific

Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, III, and IV must be completed by the applicant. For applications submitted in connection with amended registration actions, Section I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

Section I - This Section must be completed for both Registration and Amended Registration actions.

1. **Company/Product Number** - Insert your company number, if one has been assigned. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If application is for an amendment, insert the registration number of the product.
2. **Date** - Fill in the appropriate date.
3. **Product Manager** - If known, fill in the name and number of the Product Manager.
4. **Proposed Classification** - Specify the proposed classification for this product.
5. **Name and Address of Applicant** - The name of the firm or person and address shown in your application is the person or firm to whom registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters.

EPA Form 8570-1 (Rev. 12-90)

An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.

6. **Product Name** - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.

Amendment Information

Section II - This Section must be completed for all applications submitted in connection with Amended Registration.

1. **Subject of Amendment** - Check the appropriate block, and provide a brief explanation of the purpose(s) for the amendment, such as: "the addition of a site, pest, or crop"; "to change inert ingredient"; "general label revisions of precautionary statements," etc.

Packaging and Container Information

Section III - This Section must be completed for all applications submitted in connection with New Registration.

1. **Type of Packaging** - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. **Type of Retail Container** - Indicate type of container in which product will be marketed.
3. **Location of Net Contents** - Specify the net contents of all retail containers for your product.
4. **Size(s) of Retail Container** - Specify the net contents of all retail containers for your product.
5. **Location of Use Directions** - Indicate the location of the use directions for your product.
6. **Manner in which label is affixed to product** - Indicate the method product labeling is attached to retail container.

Contact Point

Section IV - This Section must be completed for all Registration and Amended Registration applications.

- 1-5. Self-explanatory.
6. EPA Use Only.



United States Environmental Protection Agency
Washington, DC 20460

Certification with Respect to Citation of Data

Form Approved
OMB No. 2070-0060
Approval Expires 11-30-93

Applicants Name and Address

Monsanto Company
700 14th Street, N.W., Suite 1100
Washington, D.C. 20005

EPA File Symbol/Registration Number

524-445

Product Name

Roundup Herbicide

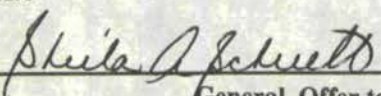
Date of Application

December 30, 1992

NOTE: If your product is a 100% repackaging of another EPA-registered product that you purchase, and is labeled for the same uses, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approval of this application. (Check the appropriate boxes, in items 2 and 3 below, that pertain to your application.)
2. I certify that, for each study cited in support of this application for registration that is an exclusive use study,
☒ I am the original submitter*; or
☐ I have obtained the written permission of the original data submitter to cite that study*
3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study:
 - a. ☒ I am the original data submitter*; or
☐ I have obtained the written permission of the original data submitter to cite that study*; or
 - b. ☐ I have notified in writing the companies that have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: (Check one)
☐ All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method*). (Also, sign the General Offer Statement below.)
☐ Those companies that have submitted the studies which I have cited (Selective method*).

* A Data Matrix identifying these studies is attached. (Note: a Data Matrix is not required under the cite-all method.)

Signature 	Name and Title Sheila A. Schuette Senior Registration Specialist	Date Dec 30, 1992
General Offer to Pay: I hereby offer and agree to pay compensation to other persons, with regard to the approval of this application, to the extent required.		
Signature	Name and Title	Date

Paperwork Reduction Act Notice

Public reporting burden for this collection of information is estimated to 1.0 hours per response, including time for reviewing instructions, certifying the existence of the appropriate data, and completing and mailing this form. Send comments regarding the burden estimate or any other aspect of this certification process including suggestions for reducing the burden to:

Chief, Information Policy Branch, PM-223
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460

and to

Office of Management and Budget
Paperwork Reduction Project (2070-0060)
Washington, DC 20503

SECTION III

Glyphosate 40 CFR 150 Data Reference List

0130:0049

MON-2139 / GLYPHOSATE
EPA Reg. No. 524-308

40 CFR 158.150 - 158.190 PRODUCT CHEMISTRY	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
PRODUCT IDENTITY:						
61-1 Product Identity & Disclosure of Ingredients (MP)	+	41228201	8/30/89	R.D. 953	Monsanto	
61-1 Product Identity & Disclosure of Ingredients (EP)	+	263795	6/30/86	R.D. 690	Monsanto	
61-2 Beginning Materials and Manufacturing Process (MP)	+	41228201	8/30/89	R.D. 953	Monsanto	
61-2 Beginning Materials and Manufacturing Process (EP)	+	263795	6/30/86	R.D. 690	Monsanto	
61-3 Formation of Impurities (MP)	+	41228201	8/30/89	R.D. 953	Monsanto	
61-3 Formation of Impurities (EP)	+	263795	6/30/86	R.D. 690	Monsanto	
ANALYSIS AND CERTIFICATION OF INGREDIENTS:						
62-1 Preliminary Analysis (MP)	+	41228202	8/30/89	R.D. 953	Monsanto	
62-1 Preliminary Analysis (EP)	+	263795	6/30/86	R.D. 690	Monsanto	
62-2 Certification of Limits (MP)	+	41228202	8/30/89	R.D. 953	Monsanto	
62-2 Certification of Limits (EP)	+	263795	6/30/86	R.D. 690	Monsanto	
62-3 Analytical Methods for Enforcement of Limits (MP)	+	41228202	8/30/89	R.D. 953	Monsanto	
62-3 Analytical Methods for Enforcement of Limits (EP)	+	263795	6/30/86	R.D. 690	Monsanto	
PHYSICAL AND CHEMICAL CHARACTERISTICS:						
63-2 Color (MP & TGAI)	+	263795	6/30/86	R.D. 690	Monsanto	
63-2 Color (EP)	+	263795	6/30/86	R.D. 690	Monsanto	
63-3 Physical State (MP & TGAI)	+	263795	6/30/86	R.D. 690	Monsanto	
63-3 Physical State (EP)	+	263795	6/30/86	R.D. 690	Monsanto	
63-4 Odor (MP & TGAI)	+	263795	6/30/86	R.D. 690	Monsanto	
63-4 Odor (EP)	+	263795	6/30/86	R.D. 690	Monsanto	
63-5 Melting Point (TGAI)	+	96177	6/1/76	R.D. 102	Monsanto	
63-6 Boiling Point (TGAI)	NR					
63-7 Density, Bulk Density or Specific Gravity (MP & TGAI)	+	263795	6/30/86	R.D. 690	Monsanto	

CONTAINS TRADE SECRET OR
OTHERWISE CONFIDENTIAL
INFORMATION OF MONSANTO
COMPANY

01100049

MON-2139 / GLYPHOSATE
EPA Reg. No. 524-308

40 CFR 158.150 - 158.190
PRODUCT CHEMISTRY

DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
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PHYSICAL AND CHEMICAL CHARACTERISTICS
(CONT.):

63-7	Density, Bulk Density or Specific Gravity (EP)	+	263795	6/30/86	R.D. 690	Monsanto
63-8	Solubility (TGAI or PAI)	+	263795	6/30/86	R.D. 690	Monsanto
63-9	Vapor Pressure (TGAI or PAI)	+	41096101	5/10/89	R.D. 924	Monsanto
63-10	Dissociation Constant (TGAI or PAI)	+	263795	6/30/86	R.D. 690	Monsanto
63-11	Octanol/Water Partition Coefficient (PAI)	+	234109	6/5/78	R.D. 181	Monsanto
63-12	pH (MP & TGAI)	+	254433	7/30/84	R.D. 542	Monsanto
63-12	pH (EP)	+	263795	6/30/86	R.D. 690	Monsanto
63-13	Stability (TGAI)	+	254433	7/30/84	R.D. 542	Monsanto
63-14	Oxidizing or Reducing Action (MP)	+	263795	6/30/86	R.D. 690	Monsanto
63-14	Oxidizing or Reducing Action (EP)	+	263795	6/30/86	R.D. 690	Monsanto
63-15	Flammability (MP)	+	263795	6/30/86	R.D. 690	Monsanto
63-15	Flammability (EP)	+	263795	6/30/86	R.D. 690	Monsanto
63-16	Explosibility (MP)	+	263795	6/30/86	R.D. 690	Monsanto
63-16	Explosibility (EP)	+	263795	6/30/86	R.D. 690	Monsanto
63-17	Storage Stability (MP)	+	254433	7/30/84	R.D. 542	Monsanto
63-17	Storage Stability (EP)	+	41573601	7/27/90	R.D. 1006	Monsanto
63-17	Storage Stability (PAI)	+	263795	6/30/86	R.D. 690	Monsanto
	(In Plants, Animal Products, and Water)		40502605	1/29/88	R.D. 848	Monsanto
			40532004	2/23/88	R.D. 855	Monsanto
			41472002	4/2/90	R.D. 977	Monsanto
			41573501	7/25/90	R.D. 1005	Monsanto
63-18	Viscosity (MP)	NR				
63-18	Viscosity (EP)	+	263795	6/30/86	R.D. 690	Monsanto
63-19	Miscibility (MP)	NR				
63-19	Miscibility (EP)	NR				
63-20	Corrosion Characteristics (MP)	+	263795	6/30/86	R.D. 690	Monsanto
63-20	Corrosion Characteristics (EP)	+	263795	6/30/86	R.D. 690	Monsanto
63-21	Dielectric Breakdown Voltage (EP)	NR				
64-1	Submittal of Samples (PAI)	+				Monsanto

CONTAINS TRADE SECRET OR
OTHERWISE CONFIDENTIAL
INFORMATION OF MONSANTO
COMPANY

**EXPLANATION OF DATA NOT REQUIRED
TO SUPPORT REGISTRATION**

40 CFR 158.150 - 158.190 PRODUCT CHEMISTRY

63-6	Boiling Point (TGAI)	Data is required only if the technical material is a liquid at room temperature. Glyphosate is a solid.
63-18	Viscosity (MP)	Data is required if the material is a liquid. Glyphosate is a solid.
63-19	Miscibility (MP)	Data is required if the material is an emulsifiable liquid. Glyphosate is a water-soluble solid.
63-19	Miscibility (EP)	Data is required is the product is an emulsifiable liquid. MON-2139 is a ready-to-use liquid, not to be diluted.
63-21	Dielectric Breakdown Voltage (EP)	Data is required for liquid products that are used around electrical equipment. When MON-2139 is applied as a herbicide there is virtually no circumstance where it would be in contact with electrical equipment.

CONTAINS TRADE SECRET OR
OTHERWISE CONFIDENTIAL
INFORMATION OF MONSANTO
COMPANY

MON-2139 / GLYPHOSATE
EPA Reg. No. 524-308

CONTAINS TRADE SECRET OR
OTHERWISE CONFIDENTIAL
INFORMATION OF MONSANTO
COMPANY

40 CFR 158.340 TOXICOLOGY	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
ACUTE TESTING:						
81-1 Oral LD50 - Rat (MP & TGAI)	+	41400601	2/6/90	R.D. 976	Monsanto	
81-1 Oral LD50 - Rat (EP)	+	00116580	9/24/82	R.D. 447	Monsanto	
81-2 Dermal LD50 (MP & TGAI)	+	41400602	2/6/90	R.D. 976	Monsanto	
81-2 Dermal LD50 (EP)	+	00116581	9/24/82	R.D. 447	Monsanto	
81-2 Inhalation LC50 - Rat (MP & TGAI)	+	00108120	8/22/75	R.D. 65	Monsanto	
81-3 Inhalation LC50 - Rat (EP)	+	247188	3/22/82	R.D. 414	Monsanto	
81-3 Primary Eye Irritation - Rabbit (MP)	+	249301	1/19/83	R.D. 414	Monsanto	
81-4 Primary Eye Irritation - Rabbit (EP)	+	41400603	2/6/90	R.D. 976	Monsanto	
81-5 Primary Dermal Irritation (MP)	+	41689301	11/8/90	R.D. 1021	Monsanto	
81-5 Primary Dermal Irritation (EP)	+	41400604	2/6/90	R.D. 976	Monsanto	
81-6 Dermal Sensitization (MP)	(NR)	00116583	9/24/82	R.D. 447	Monsanto	
81-6 Dermal Sensitization (EP)	+	00137138	12/20/83	R.D. 515	Monsanto	
81-7 Acute Delayed Neurotoxicity - Hen (TGAI)	+	00137137	8/29/84	R.D. 551	Monsanto	
81-7 Acute Delayed Neurotoxicity - Hen (EP)	NR	00054494	12/22/76	R.D. 108	Monsanto	
SUBCHRONIC TESTING:						
82-1 90-Day Feeding - Rodent (TGAI)	+	40559401	3/16/88	R.D. 860	Monsanto	
82-1 90-Day Feeding - Nonrodent (TGAI)	+	94161	7/12/74	R.D. 51	Monsanto	
82-2 21-Day Dermal (TGAI)	+	00098460	3/22/82	R.D. 413	Monsanto	
82-2 21-Day Dermal (EP)	+	00067045	7/12/74	R.D. 51	Monsanto	
82-3 90-Day Dermal (TGAI)	NR	00067046	7/12/74	R.D. 51	Monsanto	
82-4 90-Day Inhalation - Rat (TGAI)	NR	00108128				
82-5 90-Day Neurotoxicity - Hen (TGAI)	NR					
82-5 90-Day Neurotoxicity - Mammal (TGAI)	NR					
CHRONIC TESTING:						
83-1 Chronic Feeding - Rodent (TGAI)	+	41643801	9/26/90	R.D. 1014	Monsanto	
		41728701	12/17/90	R.D. 1014	Monsanto	

01770:0049

MON-2139 / GLYPHOSATE
EPA Reg. No. 524-308

40 CFR 158.340
TOXICOLOGY

40 CFR 158.340 TOXICOLOGY	DATA REQ'D	REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
CHRONIC TESTING (CONT.):						
83-1 Chronic Feeding - Nonrodent (TGAI)	+	00153374	10/17/85	R.D. 636	Monsanto	CONTAINS TRADE SECRET OR OTHERWISE CONFIDENTIAL INFORMATION OF MONSANTO COMPANY
83-2 Oncogenicity Study - Rat (TGAI)	+	00153374	8/11/86	R.D. 698	Monsanto	
		41643801	9/26/90	R.D. 1014	Monsanto	
		41728701	12/17/90	R.D. 1014	Monsanto	
83-2 Oncogenicity Study - Mouse (TGAI)	+	251007-14	7/29/83	R.D. 480	Monsanto	
		00150564	10/7/85	R.D. 635	Monsanto	
		260023	10/28/85	R.D. 643	Monsanto	
83-3 Teratology - Rat (TGAI)	+	242516	5/13/80	R.D. 300	Monsanto	
83-3 Teratology - Rabbit (TGAI)	+	00046362	11/15/82	R.D. 300	Monsanto	
83-4 Reproduction, 2-Generation (TGAI)	+	242516	5/13/80	R.D. 300	Monsanto	
	+	41621501	8/30/90	R.D. 1013	Monsanto	
MUTAGENICITY TESTING:						
84-2 Gene Mutation (TGAI)	+	238233	4/20/79	R.D. 236	Monsanto	CONTAINS TRADE SECRET OR OTHERWISE CONFIDENTIAL INFORMATION OF MONSANTO COMPANY
		251737	11/4/83	R.D. 504	Monsanto	
		252487	2/9/84	R.D. 504	Monsanto	
84-2 Chromosomal Aberration (TGAI)	+	00046364	5/13/80	R.D. 300	Monsanto	
		251737	11/4/83	R.D. 504	Monsanto	
84-4 Other Mechanisms of Mutagenicity (TGAI)	+	238233	4/20/79	R.D. 236	Monsanto	
		251737	11/4/83	R.D. 504	Monsanto	
SPECIAL TESTING:						
85-1 General Metabolism (PAIRA)	+	93849	11/12/73	R.D. 47	Monsanto	CONTAINS TRADE SECRET OR OTHERWISE CONFIDENTIAL INFORMATION OF MONSANTO COMPANY
		93851	11/12/73	R.D. 47	Monsanto	
		40767101-2	8/11/88	R.D. 877	Monsanto	
85-2 Dermal Penetration	(NR)	00137139-40	12/20/83	R.D. 515	Monsanto	
86-1 Domestic Animal Safety	NR					

NR = Not Required / See Explanation Sheet
(NR) = Not Required, but studies were performed

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**EXPLANATION OF DATA NOT REQUIRED
TO SUPPORT REGISTRATION**

40 CFR 158.340 TOXICOLOGY

81-6	Dermal Sensitization (MP)	Data is required if repeated contact with human skin is expected. Glyphosate is not used in a manner where such contact is likely.
81-7	Acute Delayed Neurotoxicity - Hen (TGAI)	Not required unless test material is an organophosphate, or a metabolite or degradation product which causes acetyl cholinesterase depression, or is structurally related to a substance that causes delayed neurotoxicity. Glyphosate does not trigger this requirement.
82-3	90-Day Dermal (TGAI)	Data is required if use involves purposeful dermal application to, or prolonged exposure of, human skin; or if pesticidal use will involve purposeful application to human skin or will result in comparable human exposure to the product (e.g., swimming pool algacides, pesticides for impregnating clothing) and if either of the following criteria are met: i) Data from a subchronic oral study are not required; or ii) The active ingredient of the product is known or expected to be metabolized differently by the dermal route of exposure than by the oral route, and a metabolite of the active ingredient is the toxic moiety. Glyphosate does not trigger this requirement.
82-4	90-Day Inhalation - Rat (TGAI)	Data is required if the use may result in repeated inhalation exposure at a concentration likely to be toxic. The use pattern for glyphosate does not warrant this testing.
82-5	90-Day Neurotoxicity - Hen (TGAI)	Data is required if acute delayed neurotoxicity test showed neuropathy or neurotoxicity, or if closely related structurally to a compound which can induce these effects. Glyphosate does not cause acute neurotoxicity.
82-5	90-Day Neurotoxicity - Mammal (TGAI)	Data is required if acute oral, dermal or inhalation studies showed neuropathy or neurotoxicity. Glyphosate does not trigger this testing.
86-1	Domestic Animal Safety	Required on a case-by-case basis. The known properties of glyphosate and the registered uses do not warrant this testing.

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MON-2139 / GLYPHOSATE
EPA Reg. No. 524-308

40 CFR 158.490 WILDLIFE AND AQUATIC ORGANISMS	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
AVIAN AND MAMMALIAN TESTING:						
71-1 Avian Oral LD ₅₀ (TGAI)	+	00108204	3/1/78		Monsanto	
71-2 Avian Dietary LC ₅₀ (TGAI)	+	94171	7/12/74	R.D. 51	Monsanto	
71-3 Wild Mammal Toxicity (TGAI)	NR					
71-4 Avian Reproduction (TGAI)	+	235924	11/13/78	R.D. 211	Monsanto	
71-5 Simulated or Actual Field Testing - Mammals and Birds (TEP)	NR					
AQUATIC ORGANISM TESTING:						
72-1 Freshwater Fish LC ₅₀ (TGAI)	+	94171	7/12/74	R.D. 51	Monsanto	
72-1 Freshwater Fish LC ₅₀ (TEP)	+	97661	11/28/78	R.D. 215	Monsanto	
		94171	7/12/74	R.D. 51	Monsanto	
		00070894-7	3/30/81	R.D. 350	Monsanto	
		40579201-3	3/25/88	R.D. 862	Monsanto	
72-2 Acute LC ₅₀ Freshwater Invertebrates (TGAI)	+	97661	11/28/78	R.D. 215	Monsanto	
72-2 Acute LC ₅₀ Freshwater Invertebrates (TEP)	+	94171	7/12/74	R.D. 51	Monsanto	
		00070893	3/30/81	R.D. 350	Monsanto	
		94171	7/12/74	R.D. 51	Monsanto	
		97661	11/28/78	R.D. 215	Monsanto	
72-3 Acute LC ₅₀ Estuarine and Marine Organisms (TGAI)	+	249159-60	12/20/82	R.D. 453	Monsanto	
73-4 Fish Early Life Stage and Aquatic Invertebrate Life-Cycle (TGAI)	+	97759	12/22/78	R.D. 220	Monsanto	
72-5 Fish - Life-Cycle (TGAI)	+	94171	7/12/74	R.D. 51	Monsanto	
72-6 Aquatic Organism Accumulation (TGAI)		97762	12/22/78	R.D. 220	Monsanto	
		41228300-2	9/5/89	R.D. 955	Monsanto	
72-7 Simulated or Actual Field Testing - Aquatic Organisms (TEP)	NR					

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NR = Not Required / See Explanation Sheet

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**EXPLANATION OF DATA NOT REQUIRED
TO SUPPORT REGISTRATION**

40 CFR 158.490 WILDLIFE AND AQUATIC ORGANISMS

- | | | |
|------|---|---|
| 71-3 | Wild Mammal Toxicity (TGAD) | Tests are required on a case-by-case basis depending on the results of lower tier studies such as acute and subacute testing, intended use pattern, and pertinent environmental characteristics. Results from other glyphosate studies have not triggered this requirement. |
| 71-5 | Simulated and Actual Field Testing -
Mammals and Birds (TEP) | Tests are required on a case-by-case basis depending on the results of lower tier studies such as acute and subacute testing, intended use pattern, and pertinent environmental characteristics. Results from other glyphosate studies have not triggered this requirement. |
| 72-7 | Simulated or Actual Field Testing -
Aquatic Organisms (TEP) | Results of tier one and tier two studies with Roundup and glyphosate demonstrate that these materials have a low level of toxicity to aquatic species. Results from other studies have not triggered this requirement. |

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MON-2139 / GLYPHOSATE
EPA Reg. No. 524-308

40 CFR 158.540
PLANT PROTECTION

DATA
REQ'D

EPA
REFERENCE
NUMBER

SUBMISSION
DATE

DOCUMENT
NUMBER

OWNER

AUTHORIZATION

TARGET AREA PHYTOTOXICITY

121-1 Target Area Phytotoxicity (TEP)

NR

NONTARGET AREA PHYTOTOXICITY

TIER I:

122-1 Seed Germination/Seedling Emergence (TGAI)
122-1 Vegetative Vigor (TGAI)
122-2 Aquatic Plant Growth (TGAI)

+
NR
1

40159301

4/10/87

R.D. 767

Monsanto

TIER II:

123-1 Seed Germination/Seedling Emergence (TGAI)
123-1 Vegetative Vigor (TGAI)

NR
+

40236901-5

6/12/87

R.D. 779-
R.D. 783

Monsanto

123-2 Aquatic Plant Growth (TGAI)

+

40236901-5

6/12/87

R.D. 779-
R.D. 783

Monsanto

TIER III:

124-1 Terrestrial Field (TEP)
124-2 Aquatic Field (TEP)

NR
NR

¹ Tier I Aquatic Plant Growth studies were combined with Tier II Aquatic Plant Growth studies.

NR = Not Required / See Explanation Sheet

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**EXPLANATION OF DATA NOT REQUIRED
TO SUPPORT REGISTRATION**

40 CFR 158.540 PLANT PROTECTION

121-1	Target Area Phytotoxicity (TEP)	Data are required only for Special Review and certain public health situations.
123-1	Tier II Seed Germination / Seedling Emergence (TGAI)	Required if $\geq 25\%$ detrimental effect in one or more plant species was found in the corresponding Tier I test. Glyphosate does not trigger this requirement.
123-1	Tier II Vegetative Vigor (TGAI)	Required if $\geq 25\%$ detrimental effect in one or more plant species was found in the corresponding Tier I test. Glyphosate does not trigger this requirement.
124-1	Tier III Terrestrial Field (TEP)	Required if $\geq 25\%$ detrimental effect in one or more plant species was found in the corresponding Tier II test. Glyphosate does not trigger this requirement.
124-2	Tier III Aquatic Field (TEP)	Required if $\geq 50\%$ detrimental effect on any plant species was found in the corresponding Tier II test. Glyphosate does not trigger this requirement.

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MON-2139 / GLYPHOSATE
EPA Reg. No. 524-308

40 CFR 158.590 NONTARGET INSECT	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
POLLINATORS:						
141-1 Honeybee Acute Contact Toxicity (TGAI)	+	94171	7/12/74	R.D. 51	Monsanto	
141-2 Honeybee - Toxicity of Residues on Foliage (TEP)	NR					
141-4 Honeybee Subacute Feeding Study (TEP)	1					
141-5 Field Testing for Pollinators (TEP)	NR					
AQUATIC INSECTS:						
142-1 Acute Toxicity to Aquatic Insects	2					
142-2 Aquatic Insect Life-Cycle Study	2					
142-3 Simulated or Actual Field Testing for Aquatic Insects	2					
PREDATORS AND PARASITES:						
143-1 thru 143-3	2					

¹ Reserved pending development of test methodology.

² Reserved pending further evaluation to determine what and when data should be required, and to develop appropriate test methods.

NR = Not Required / See Explanation Sheet

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**EXPLANATION OF DATA NOT REQUIRED
TO SUPPORT REGISTRATION**

40 CFR 158.590 NONTARGET INSECT

141-2 Honeybee - Toxicity of Residues
on Foliage (TEP)

As data from acute study indicate very low toxicity, no further testing is required.

151-5 Field Testing for Pollinators (TEP)

As data from acute study indicate very low toxicity, no further testing is required.

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MON-2139 / GLYPHOSATE
EPA Reg. No. 524-308

40 CFR 158.390 REENTRY PROTECTION	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
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REENTRY PROTECTION:

132-1 Foliar Dissipation (TEP)	NR				
132-1 Soil Dissipation (TEP)	NR				
133-3 Dermal Exposure (TEP)	NR				
133-4 Inhalation Exposure (TEP)	NR				

NR = Not Required / See Explanation Sheet

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EXPLANATION OF DATA NOT REQUIRED
TO SUPPORT REGISTRATION

40 CFR 158.390 REENTRY PROTECTION

132-1 thru 133-4

MON-2139 herbicide (glyphosate) is not applied to growing crops or to soil. It is applied to undesirable grass and broadleaf weeds to control or otherwise mitigate their growth or competition with turf or ornamentals. It is unlikely that people would contact such treated vegetation on a regular or extended basis.

Based on the known low toxicity of glyphosate and MON-2139 and the minimal exposure from present use patterns, no reentry restrictions have been required and no additional dermal or inhalation studies have been requested.

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MON-2139 / GLYPHOSATE
EPA Reg. No. 524-308

40 CFR 158.290 ENVIRONMENTAL FATE	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
DEGRADATION STUDIES - LAB:						
161-1 Hydrolysis (TGAI or PAIRA)	+	234109	6/5/78	R.D. 181	Monsanto	
PHOTODEGRADATION:						
161-2 In Water (TGAI or PAIRA)	+	41689101	11/1/90	R.D. 1020	Monsanto	
161-3 On Soil (TGAI or PAIRA)	+	41355101	12/18/89	R.D. 972	Monsanto	
161-4 In Air (TGAI or PAIRA)	NR					
METABOLISM STUDIES - LAB:						
162-1 Aerobic Soil (TGAI or PAIRA)	+	41742901	1/3/91	R.D. 1031	Monsanto	
162-2 Anaerobic Soil (TGAI or PAIRA)	NR				Monsanto	
162-3 Anaerobic Aquatic (TGAI or PAIRA)	+	41723701	12/7/90	R.D. 1029	Monsanto	
162-4 Aerobic Aquatic (TGAI or PAIRA)	+	41723601	12/7/90	R.D. 1030	Monsanto	
MOBILITY STUDIES:						
163-1 Leaching and Adsorption/Desorption (TGAI or PAIRA)	+	95789 234109 00064703	7/12/74 6/5/78 12/16/80	R.D. 51 R.D. 181 R.D. 335	Monsanto Monsanto Monsanto	
163-2 Volatility - Lab (TEP)	+	234109	6/5/78	R.D. 181	Monsanto	
163-3 Volatility - Field (TEP)	NR					
DISSIPATION STUDIES - FIELD:						
164-1 Soil (TEP)	+	95789 95790 264332	7/12/74 7/12/74 8/6/86	R.D. 51 R.D. 51 R.D. 696	Monsanto Monsanto Monsanto	
		00162922	8/7/86	R.D. 697	Monsanto	
		41096103	5/10/89	R.D. 924	Monsanto	
164-2 Aquatic Sediment (TEP)	+	95790 40881601	7/12/74 11/9/88	R.D. 51 R.D. 898	Monsanto Monsanto	

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MON-2139 / GLYPHOSATE
EPA Reg. No. 524-308

40 CFR 158.290 ENVIRONMENTAL FATE	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
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DISSIPATION STUDIES - FIELD (CONT.):

164-3 Forestry (TEP)	+	00084657 246658 00162923 00134008 00162923 41552801	9/29/81 2/1/82 6/17/83 11/18/83 8/7/86 6/2/90	R.D. 379 R.D. 379 R.D. 379 R.D. 506 R.D. 697 R.D. 993	Monsanto Monsanto Monsanto Monsanto Monsanto Monsanto	
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164-4 Combination and Tank Mixes	NR					
164-5 Soil, Long-Term (TEP)	NR					

ACCUMULATION STUDIES:

165-1 Rotational Crops - Confined (PAIRA)	+	41543201-2	6/29/90	R.D. 991	Monsanto	
165-2 Rotational Crops - Field (TEP)	+	96398	10/14/77	R.D. 141	Monsanto	
165-3 Irrigated Crops (TEP)	+	40541305	2/23/88	R.D. 856	Monsanto	
165-4 In Fish (TGAI or PAIRA)	+	97762	12/22/78	R.D. 220	Monsanto	
165-5 In Aquatic Non-target Organisms (TEP)	+				Monsanto	

NR = Not Required / See Explanation Sheet

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40 CFR 158.290 ENVIRONMENTAL FATE

161-4	Photodegradation In Air (TGAI or PAIRA)	Glyphosate is not applied as an aerosol or mist, and is not applied over orchard or vegetable crops.
162-2	Anaerobic Soil (TGAI or PAIRA)	Not required if anaerobic aquatic metabolism study has been conducted.
163-3	Volatility - Field (TEP)	Glyphosate is essentially non-volatile and, therefore, does not require field volatility testing.
164-4	Combination and Tank Mixes	The Agency has not requested any specific studies. However, glyphosate tank mix residue data are available under the 40 CFR 158.240 Residue Data section of this data package.
164-5	Soil Dissipation, Long-Term (TEP)	Required if pesticide residues do not dissipate readily in soil. Glyphosate has a sufficiently short half-life in soil that this study has not been required.

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MON-2139 / GLYPHOSATE
EPA Reg. No. 524-308

40 CFR 158.240
RESIDUE CHEMISTRY

	DATA REQ'D	EPA REFERENCE NUMBER	SUBMISSION DATE	DOCUMENT NUMBER	OWNER	AUTHORIZATION
171-2 Chemical Identity (TGAI)	+	41228201	8/30/89	R.D. 953	Monsanto	
171-3 Directions for Use	1					
NATURE OF THE RESIDUE:						
171-4 Plants (PAIRA)	+	Appendix A				
171-4 Livestock (PAIRA and Plant Metabolites)	+	40541301-2	2/23/88	R.D. 856	Monsanto	
171-4 Residue Analytical Method - Plants (TGAI and Metabolites)	+	364040	7/24/79	R.D. 251	Monsanto	
		00164729	10/20/86	R.D. 707	Monsanto	
		40502601	1/29/88	R.D. 849	Monsanto	
		40541303	2/23/88	R.D. 856	Monsanto	
171-4 Residue Analytical Method - Animals (TGAI and Metabolites)	+					
171-4 Residue Analytical Method - Water (TGAI and Metabolites)	+	00159419	5/19/86	R.D. 677	Monsanto	
MAGNITUDE OF THE RESIDUE:						
171-4 Crop Field Trials (TEP)	+	Appendix B				
171-4 Processed Food/Feed (EP)	+	Appendix B				
171-4 Meat/Milk/Poultry/Eggs (TGAI or Plant Metabolites)	+	40532001-3	2/23/88	R.D. 855	Monsanto	
171-4 Potable Water (EP)	+	Appendix C				
171-4 Fish (EP)	+	Appendix D				
171-4 Irrigated Crops (EP)	+	Appendix B				
171-4 Food Handling (EP)	NR					
171-5 Reduction of Residue	NR					
171-6 Proposed Tolerances	2					
171-7 Reasonable Grounds in Support of the Petition	3					

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- ¹ Directions for Use are contained in the product label.
² Proposed Tolerances are contained in Section VII of this submission
³ Reasonable Grounds in Support of the Petition are contained in Section VIII of this submission

NR = Not Required / See Explanation Sheet

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40 CFR 158.240 RESIDUE CHEMISTRY

171-4 Food Handling (EP)

Data on residues in food or feed in food handling establishments are required whenever a pesticide is to be used in food/feed handling establishments. Glyphosate end-use products are not used in such establishments.

171-5 Reduction of Residue

Reduction of residue is required when the assumption of tolerance level residues results in an unsafe level of exposure. The registered uses of glyphosate do not trigger this requirement.

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APPENDIX A

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40 CFR 158.125

Study Description

Nature of Residue:

171-4 Plants (PAIRA)

EPA
Reference
Number

Submission
Date

Data
Owner

Authorization

Corn

094181 12/23/75 Monsanto
094164 12/23/75 Monsanto
094165 12/23/75 Monsanto

Wheat

094181 12/23/75 Monsanto
094164 12/23/75 Monsanto
094165 12/23/75 Monsanto

Soybeans

094181 12/23/75 Monsanto
094164 12/23/75 Monsanto
094165 12/23/75 Monsanto

Cotton

094181 12/23/75 Monsanto
094164 12/23/75 Monsanto
094165 12/23/75 Monsanto

Grapes

094264 10/04/74 Monsanto

Citrus

094958 01/19/76 Monsanto

Coffee

096177 06/01/76 Monsanto

Sugarcane

095141 03/01/76 Monsanto

Pome fruit

095271 09/01/76 Monsanto

Forage grasses & legumes

097094 04/28/78 Monsanto

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EPA
Reference
Number

**Submission
Date**

**Data
Owner**

Authorization

ature of Residue:
71-4 Plants (PAIRA)

Sugar beets

096684

12/09/77

Monsanto

Nut Crops

095663

11/30/76

Monsanto

Alfalfa

095704

12/31/76

Monsanto

Vegetables

096398

10/15/77

Monsanto

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N-Nitrosoglyphosate

229787

05/10/77

Monsanto

APPENDIX B

<u>40 CFR 158.125 Study Description</u>	<u>EPA Reference Number</u>	<u>Submission Date</u>	<u>Data Owner</u>	<u>Authorization</u>
Magnitude of Residue: 171-4 Crop Field Trials (TEP)				
Corn	095787	07/12/74	Monsanto	
	232683	12/12/77	Monsanto	
	232519	12/09/77	Monsanto	
	222755	12/19/75	Monsanto	
	238167	03/30/79	Monsanto	
Wheat	095787	07/12/74	Monsanto	
	071296	12/02/82	Monsanto	
Soybeans	095787	07/12/74	Monsanto	
	096191	06/17/77	Monsanto	
	232680	12/12/77	Monsanto	
	222753	02/19/73	Monsanto	
Oats	095787	07/12/74	Monsanto	
Rice	095787	07/12/74	Monsanto	
Barley	095787	07/12/74	Monsanto	
Sorghum (Milo)	095787	07/12/74	Monsanto	
	247659	06/04/82	Monsanto	
Grapes	094260	10/04/74	Monsanto	
Raisins	095703	12/31/76	Monsanto	
Citrus	094957	01/19/76	Monsanto	
	094958	01/19/76	Monsanto	

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40 CRF 158.125

Study Description

Magnitude of Residue:

71-4 Crop Field Trials (TEP)

EPA

Reference
Number

Submission
Date

Data
Owner

Authorization

Cotton

096191

06/17/77

Monsanto

099720

11/03/80

Monsanto

097166

05/17/76

Monsanto

Coffee

096177

06/01/76

Monsanto

Sugarcane

095141

03/01/76

Monsanto

Palm Oil

224884

08/02/76

Monsanto

Pome Fruit

095271

09/01/76

Monsanto

Asparagus

096996

03/01/78

Monsanto

Nut Crops

095633

11/30/76

Monsanto

Alfalfa

095704

12/31/76

Monsanto

Vegetable (grouping)
(seed, pod, leaf, root)

096398

10/15/77

Monsanto

Avocados

096631

11/15/77

Monsanto

Sugarbeets

096684

12/09/77

Monsanto

Potatoes

096684

12/09/77

Monsanto

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HUMAN INFORMATION

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APPENDIX B

Authorization

Magnitude of Residue:
171-4 Crop Field Trials (TEP)

Study Description	EPA Reference Number	Submission Date	Data	
			Owner	
Forage Grasses	070083	05/08/81	Monsanto	
and Legumes	097094	04/28/78	Monsanto	
	099625	09/12/80	Monsanto	
Tea	245567	06/30/81	Monsanto	
Peanuts	099306	02/18/80	Monsanto	
Stone Fruit	097735	12/15/78	Monsanto	
Bananas	098332	06/14/79	Monsanto	
Plantain	098332	06/14/79	Monsanto	
Olives	098332	06/14/79	Monsanto	
Coconut, Coconut Oil	247004	03/09/82	Monsanto	
Cranberries	099624	09/10/80	IR-4	
Guava		11/13/80	IR-4	
Papaya		11/13/80	IR-4	
Cucurbits (grouping)		02/22/83	IR-4	
Vegetables (grouping)		05/11/83	IR-4	

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CONFIDENTIAL INFORMATION
40 CFR 15.106(a)
Study Description

APPENDIX C

Study Description	EPA Reference Number	Submission Date	Data Owner	Authorization
Magnitude of Residue: 171-4 Potable Water (EP)				
Canals	094684 095356	09/25/75 09/25/75	Public Document Monsanto	
Flooded Levees	094684 095356	09/25/75 09/25/75	Monsanto Monsanto	
Ponds	094684 095356	09/25/75 09/25/75	Public Document Monsanto	
Potable Water Treatment	095356	09/25/75	Monsanto	
Ditchbank/Flowing Water	097660 097661	12/22/78 12/22/78	Monsanto Monsanto	
Shoreline/Impounded Water	097660 097661	12/22/78 12/22/78	Monsanto Monsanto	
Total Area/Impounded Water	097660 097661	12/22/78 12/22/78	Monsanto Monsanto	
Whole Cross-section/ Flowing Water	070170	06/29/81	Monsanto	

- 1/ R.D. Comes. USDA/ARS. Prosser, Washington
- 2/ R.D. Blackburn. USDA/ARS. Fort Lauderdale, Florida

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03800049

APPENDIX D

40 CFR 158.130
Study Description

Accumulation Studies:
165-4 Fish (PAIRA)

Study Description	EPA Reference Number	Submission Date	Authorization	
			Data Owner	
Rainbow Trout	097762	12/22/78	Monsanto	
Largemouth Bass	097762	12/22/78	Monsanto	
Channel Catfish	097762	12/22/78	Monsanto	
	246876	02/26/82	Monsanto	
Bluegill Sunfish	094171	12/23/75	Monsanto	
Crayfish	097762	06/20/83	Monsanto	
	071696	12/22/78	Monsanto	
		06/15/83	Monsanto	
Mollusks	097762	06/20/83	Monsanto	
	071695	12/22/78	Monsanto	
		06/15/83	Monsanto	

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